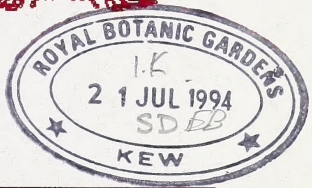


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YEARBOOK
of the
HEATHER SOCIETY



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1994

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THE HEATHER SOCIETY

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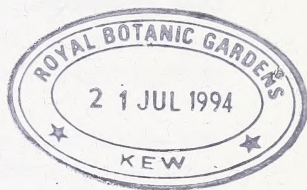
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*Yearbook
of
The Heather Society*

1994



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COVER PHOTOGRAPH

Daboecia cantabrica 'Celtic Star' in its original wild habitat,
Errislannan Peninsula, Connemara, Co. Galway, Ireland
(E. C. Nelson)

FOREWORD

It has been sad losing our good friend Bert Jones as the honorary editor. He had done the job well for no fewer than 15 years, a long stint. His illnesses finally meant that he could not manage the work – but by then he had well earned a rest. He deserves our appreciation for the scrupulous service he gave us. Long may we benefit in other ways from his scholarly wisdom. Thanks must also go to his wife, Diane, for the wonderful care she gave him during this troubled time, and still does.

Now we are fortunate to have a very able botanist taking his place, the taxonomist at the National Botanic Gardens, Glasnevin, Dublin, whom I have known since the 1960s, who has always had heathers among his wide interests. You will see here the first fruits of his enterprise, in content, layout and colour, a big change from what we have had for 27 years, all duly approved by Council. It should brighten our image and widen our usefulness, and so attract, and keep, those new members you now have an extra reason to bring in. I do indeed thank him for all the thought and energy he has put into this undertaking.

David Small has worked harder than ever as Chairman, giving us no end of his time, well supported by Anne. He has great ideas for publicising the attractions of heathers. Among these is, with Anne, attending the stand of the British Heather Growers Association at Olympia; this show will have taken place by the time you get this, so read of the results in the *Bulletin*.

This year bud-bloomers should be rescued from their obscurity. Many good ones have come out recently and more are in the pipe line – they are being trialled in Germany. There is to be a special new class for them at the RHS Show on 16 and 17 August 1994, preceded by an article on them in *The Garden*. Do seek them out, grow them and make the special effort to show them, to justify the addition of this class – hoping that they will be in showable condition in mid-August!

David McClintock

President of The Heather Society

PREFACE

Looking back through past *Yearbooks*, I discovered that it is some time since there was mention of the way in which our Society is managed. Other than the *Yearbook* carrying lists of council members and committee members, the only regular mention is a brief account of the annual general meeting proceedings in the *Bulletin*.

So how are we managed? The Council usually meets three times a year, each meeting lasting two hours, in February, August and November at the RHS Hall in Westminster. Clearly little progress can be made in six hours of discussion per year. Hence the committees to deal with the detail. Council is then free to take decisions on proposals emanating from the committees.

The committees comprise council members and, occasionally, additional corresponding members who receive the minutes of committee meetings and contribute without actually attending. These committees usually meet on the same day as Council but may have additional meetings or working parties during periods of heavy workload.

So what have we been up to in the past year? The Technical Committee has concentrated on the international register of heather names. This has been a huge undertaking, entailing many hours of work "off committee" collecting names, finding out and then verifying details of who found each plant and where, who introduced it and when, together with a description. We are greatly indebted to the international registrar, David McClintock, for his diligent work on this register for more than 30 years! The information has been fed into a computer to make checking and printing a simpler task, and the international register has now reached the stage of final checking.

The General Purposes Committee has concentrated on the preparations for a recruitment drive. First of all, we need to discover why some members leave after a short while. To this end we have commissioned a telephone survey and from the information gained we will be able to plan for the future. We already know that if we are to attract new members, we need to publicise the merits of our favourite plants through well illustrated books or pamphlets, perhaps a video or two, and even possibly a CD-ROM computer self-teach

system. This presents us with an exciting, yet difficult challenge – these need to be accurate, and authoritatively presented by someone with great technical knowledge. We have, therefore, asked Bert Jones to undertake this task and I am pleased to say that, despite Bert's debilitating illness, he has accepted the challenge. This has meant we needed to find a successor to carry on with the admirable and accurate work Bert did as honorary editor of the *Yearbook* for 15 years, for which we, as a society, owe Bert a debt of deep gratitude.

The Publications Committee is ultimately responsible for the literature produced by the society. *The handy guide to heathers*, which provides descriptions and sources of all cultivars commercially available, has, in its short life, been adopted as the 'Bible' for cultivar information and has been selling well not only to members but also to visitors to the national collections. However, the regular publications remain the chief output of the society. We have been fortunate in persuading Dr Charles Nelson, taxonomist at the National Botanic Gardens, Glasnevin, Dublin, to accept the role of honorary editor of the *Yearbook*.

The Publications Committee has been considering changes in size and format of the *Yearbook* as well as the introduction of colour and I am sure Charles will use his wealth of experience to ensure that the *Yearbook* is something we are proud to possess. The Committee is also conscious of the need to keep members well informed on topical issues and so it is up to all of us to supply Daphne Everett, editor of the *Bulletin*, who works so hard for us, with any snippets which you think will be of interest to other members.

Finally, the Finance Committee keeps the aspirations of the other committees in check, under the watchful guidance of Des Oliver, who, regretfully, is 'hanging up his cheque book' at the end of the year.

David Small

Chairman of The Heather Society



Fig. 1 'Ye olde Irish knot garden' at Greenacres, Bringsty, Worcestershire (photograph by Martyn Barnwell; reproduced by courtesy of *Practical gardening*).

Ye olde Irish knot garden

DAPHNE EVERETT

Greenacres Nursery, Bringsty, WR6 5TA, Worcestershire.

When we moved to our present house ten years ago, we inherited a lovely old Herefordshire cider-mill and stone. A cider-mill is a rather immovable object and it was sitting in the area that we wanted to turn into a heather garden, so we incorporated it into the design and planned the garden around it. Also – on the ground outside the kitchen window was another millstone, which sat there for several years until we could decide what to do with it.

It is difficult now to remember how our ideas eventually came together. It was probably a combination of **having** to do something with the stone because we were building an extension to the house, remembering the sight of water bubbling out of a circular stone at the Stoke Garden Festival; plus the plans I have had for some time to plant a knot garden. Anyway, the outcome of all our cogitating was the idea of having the millstone as the central feature of a knot garden and using the hole in the centre of the stone for some sort of water feature.

My original intention had been to plant a traditional knot garden with green box-plants as the edging and green and gold box hedges criss-crossing in the beds, and here I met the first real snag – money! Dwarf box-plants are expensive and I needed several hundred for the design. I considered buying a few plants and taking cuttings from them, but they are also very slow growing and we wanted the knot garden to look good when we opened the garden for charity the following summer. However, as a heather grower, the one thing I had in plenty was heather, with plants available in all shapes, sizes and colours, so I decided to experiment with a heather knot garden instead.

The choice of which heather to use for the edging was not at all difficult. *Erica erigena* 'W T Rackliff' with its compact tidy growth, came immediately to mind. The problem of a golden cultivar for the intertwining green and gold hedges was solved by *E. erigena* 'Golden

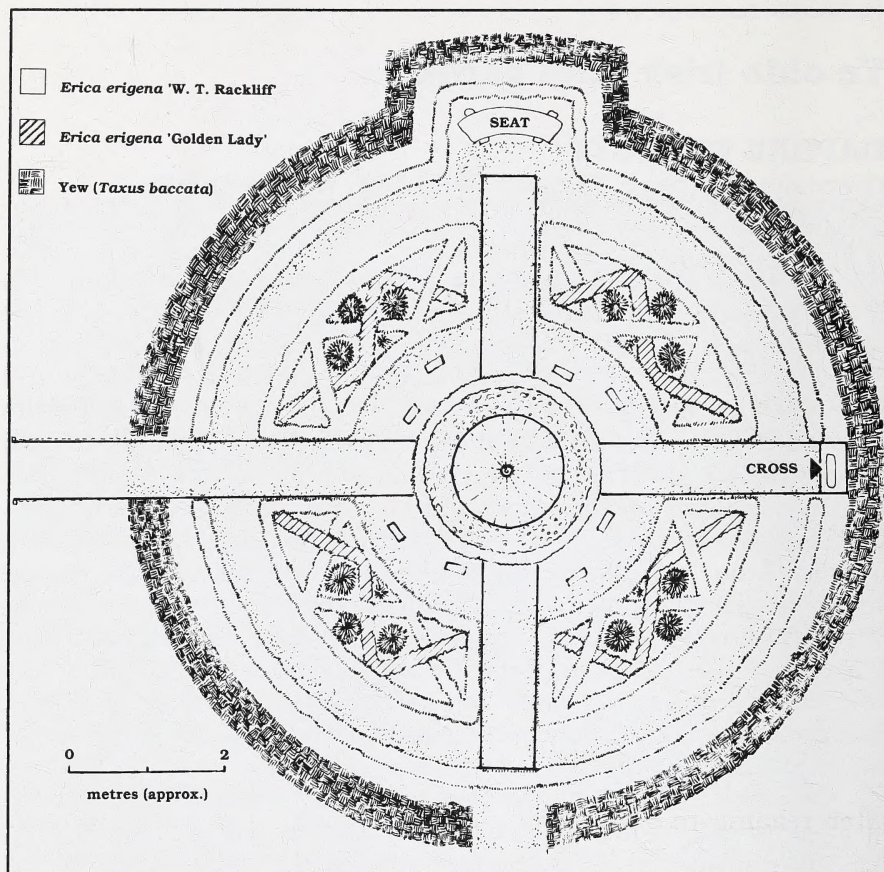


Fig. 2 Ye olde Irish knot garden; ground plan (drawn by Sean O Gaoithin)

Lady'. As this cultivar arose as a sport on 'W. T. Rackliff' I thought they stood a good chance of being reasonably compatible in habit and rate of growth. Next I needed a taller growing heather for use as a 'dot-plant' – in a traditional knot garden these are usually trimmed topiary box or yew – and, continuing the Irish theme, I decided to use plants of the slender growing *E. erigena* 'Irish Dusk' for this purpose; these will eventually be trimmed into columns or pyramids. The final decision to be taken was – which heather to use for the ground-cover plants between the heather hedges, and being by this time completely carried away with the idea of an Irish garden it had to

have Irish connections; the little prostrate *Calluna vulgaris* 'Clare Carpet', with its light green foliage and lilac-pink flowers fitted the bill nicely. (I think that, if I had not wanted the Irish connection, 'White Lawn' would have been even better).

The design of the knot garden is a simple circle (Fig. 1), with the millstone at the centre, the knot-beds also follow the circular theme. The beds are edged with *E. erigena* 'W. T. Rackliff' and plants of this and 'Golden Lady' form a simple crossover pattern in the beds. All the heathers were planted at 6 inch spacings. The green and gold interior hedges are gradually being shaped so that they appear to pass over and under each other. Paths of Marley 'Classico' pavers circle and cross the garden, and the design is completed by an old celtic-style cross (found in an antique shop) at the end of one path and a curved stone seat at the end of another. The whole area is surrounded by a yew hedge, which we intend to shape and scallop in years to come.

A heather hedge is planted around the central millstone, leaving a space of about 12 inches, which is filled with a layer of large cobble stones. The stones serve two purposes – to create a pleasantly soothing sound as the water bubbles up through the centre of the millstone, runs over the surface and down into the cobbles, and – more mundanely – they very effectively hide the rubber liner which catches the water and channels it into an underground tank ready to be pumped around again.

Setting out a heather knot-garden is quite a simple affair but, if after reading this you are tempted to make one with a central millstone, your first, and most important requirement, is a husband who is an engineer. Engineering husbands are able (and sometimes willing) to do all those very necessary things which, when everything is finished, cannot even be seen – setting the blocks level for the stone to sit on, connecting the electricity supply to the water pump and sinking a dustbin in the ground for holding the pump and the water. The second essential is a friendly farmer with a large tractor and lots of chains, who is prepared to lift the millstone (with help and encouragement from husband and a very brawny blacksmith neighbour) and set it down on precisely the right spot. Thirdly, it is very useful to know which fields grow lots of the lovely, large, round, cobble-stones that the garden centres charge a fortune for, and importantly, which farmer to ask for permission to collect a car boot

full. Our farmer neighbours definitely think we are weird but harmless!

Now, only eighteen months after planting, the heathers have already formed neat compact hedges and the overlapping effect of the green and gold is apparent. They have had their first light trim to keep them neat and tidy. One big advantage of *E. erigena* hedges over traditional box is that they are full of flower in April and May, provided that is, you have not trimmed the plants at the wrong time of year and cut all the buds off.

Of course this idea can be easily adapted to other heather species; most of the *E. x darleyensis* cultivars and the more compact *E. carnea* ones would be quite suitable and there is nothing to stop one experimenting with the more upright *E. cinerea* and *Calluna* cultivars, provided the soil conditions are right; an all gold knot-garden could look stunning.

Our latest project in the garden is a small square formal garden (as yet very much in the planning stage) and although the plantings will not be of heathers I plan to edge the beds with dwarf hedges of *E. scoparia* 'Minima'.

For such a recent creation, our knot-garden has already had more than its share of fame, having been featured in the September 1993 issue of *Practical gardening*; Jean Stowe and her photographer actually came to do a master-class on heather propagation but could not resist photographing the knot-garden as well.

It has made its debut in the USA I know, as American Heather Society friends have taken pictures back with them and, it has been photographed by the famous writer on formal gardens, Sir Roy Strong.

When we have been lucky enough to choose a sunny day to open our garden for charity, it is lovely to see people wandering through the garden enjoying the shrubs and flowers, and nothing gives us greater pleasure than to see a family relaxing on the seat, obviously enjoying the soothing effect created by the plants and the water in our Irish heather knot-garden.

Yb Heather Soc. 1994: 5-8

The Heather Society and Northern Horticultural Society's joint heather reference collections at Harlow Carr

T. A. JULIAN

Lee-Wood, Reservoir Road, Whaley Bridge, Stockport SK12 7BW, Derbyshire.

***Calluna vulgaris* collection**

The past two years have been a period of steady growth; in 1991 there were 300 cultivars, but new acquisitions have increased the total to 333. Until 1992, plants sent from Cherrybank, Perth, for verification were planted with, and ultimately became part of the collection. However, we shall depend on the generosity of members for future additions. Many of the original plants, dating from 1985 when the joint heather collections were commenced, are showing signs of deterioration. Replacements are being propagated in the nursery for planting in 1994, and propagation will continue to anticipate future replanting.

Plants of several dwarf cultivars which are planted near the woodland hedge are exhibiting die-back, a few quite severely. The cause is thought to be *Rhizoctonia*, a soil- and water-borne fungus. Much of the dwarf cultivar bed remains wet for longer than the rest of the site, mainly due to protection, provided by the adjacent woodland, from the west and north-west winds.

The trimming of the old flowering stems, which finished late in 1992 and was somewhat severe, may have accounted for a substantial reduction in the amount of blossom on some of the single-flowered cultivars, especially *C. vulgaris* 'Buxton Snowdrift', 'White Mite', 'Craig Rossie', 'Summer Elegance' and 'Hugh Nicholson'. It is intended to trim the plants much more lightly for next (1994) season and to spread the work through the 1993-1994 winter, and to ensure that trimming is completed before the start of growth.

The labels had deteriorated over the years, some becoming almost illegible. Most have been replaced with a larger, more



Fig. 1. *Erica carnea* collection in bloom (1990) at Harlow Carr (T. A. Julian)

informative design which has generic, specific and cultivar names, origin and date of introduction, and identification number. This has been expensive, but the Northern Horticultural Society acquired a computer-controlled engraving machine which is operated by volunteers, enabling costs to be reduced substantially.

The weed-control techniques started during 1991 (Julian 1992: 24) have been effective. In 1993, a large quantity of wood chips, which had been used in horse-training rings, became available at no cost. Four tons were spread over the entire plot, giving a pleasant uniformity to the collection. Trampling by the horses had produced a medium- to fine-textured mulch; the high proportion of fine particles allowed air-borne seeds to germinate, but these were removed easily by light hoeing. The black polythene mulch strips laid in 1991 were left in position but covered by a 3cm layer of wood chips.

The many mature, coloured-foliage cultivars gave a brilliant display during 1993; I do not believe that I have seen better. *C. vulgaris* 'Bonfire Brilliance', 'Firefly', 'Joy Vanstone', 'Beoley Gold' and 'Spitfire' were outstanding, as were some of the first-year plantings of other cultivars. Probable reasons for this are the absence of shade

and the very exposed site which must cause some stress to the plants.

With so many different cultivars in a relatively small area, their characteristics and performances can be assessed and compared easily. For instance, it is immediately obvious that cultivars with light and medium green shades of foliage throughout the year usually have white flowers. Likewise, those that have deeply coloured flowers have darker foliage. Many of the early white, single-flowered cultivars blossomed for a very short season in 1993 – the first flowers were dying before the lower buds had opened. Notable exceptions were *C. vulgaris* 'Alba Carlton', 'Anthony Davis', 'Long White' and 'Torulosa'. As usual, the progeny of *C. vulgaris* 'H. E. Beale' were smothered with bloom, the colour lasting well into November. Of the red-flowered cultivars, the red hues of *C. vulgaris* 'Red Star' and 'Dark Star' were most brilliant.

In the second week of November 1993, when the colour had gone from almost all cultivars, it was pleasant to see *C. vulgaris* 'Finale', 'Ginkels Glorie', 'Hilda Turberfield' and 'Marleen' at their best, and 'David Eason', 'Hibernica', 'Mauvelyn' and 'Johnson's Variety' were in full flower also.

The *Calluna* collection is planted on the ridge at the southern end of South Field, and with no paths leading to it, visitors are few. A more accessible and less exposed site may be found for the collection, and if this becomes possible during the next two or three years, the timing would be appropriate because a large number of the plants will soon be 'over the hill' and need replacing. The re-planting of the collection is unlikely to happen unless volunteers are found to undertake the work.

***Erica carnea* and *E. x darleyensis* collections**

At their best, the two collections produce a striking, colourful spectacle that improves each year and they are among the most impressive winter attractions in Harlow Carr. At peak flowering time, the limited range of colours becomes obvious. Fortunately recent introductions have increased the colour range, and these are more meritorious and distinctive in other characteristics. To mention three: *E. carnea* 'Challenger' has richly-hued, abundant flowers and attractive dark foliage; *E. carnea* 'Golden Starlet' has bright yellow summer foliage and had many more white flowers than other yellow-

leaved cultivars; and *E. x darleyensis* 'Kramer's Rote' has striking magenta flowers (the colour of 'Myretoun Ruby', one of its parents), the buds showing colour as early as November and remaining colourful until they fade in April, and vigorous and attractive growth. 'Kramer's Rote' surely is the most impressive introduction of recent years.

Annual trimming around the circumference of each plant has maintained uniformity and prevented vigorous cultivars overwhelming their neighbours. Rabbits continue to feed on the dark-foliaged heathers, and are becoming increasingly troublesome, and it may be necessary to place wire mesh covers over these plants. The annual mulching with wood chips has been effective in suppressing weeds, and the few weeds that do appear are dealt with quite easily, although pearlwort (*Sagina procumbens*) remains the most troublesome weed.

More informative labels, similar to those in the *Calluna* collection, have replaced the earlier types.

The collection appears to be free from disease, but there is a small area where otherwise 'normal' plants show yellowing of their foliage; these are *Erica carnea* 'Wentwood Red', 'Atrorubra' and 'Alan Coates'. This may be a soil problem, and as an experiment half of the plants will be sprayed with sequestrene.

The numbers of cultivars in the collections are *E. carnea* 84, and *E. x darleyensis* 22, representing modest increases since 1991. The three beds are now full and it is hoped that the area allocated for the collections can be increased to accommodate new cultivars.

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Quicker propagation of heathers on a large-scale

J. G. D. LAMB

Woodfield, Clara, Co. Offaly, Ireland.

The conventional way to propagate heathers is to take cuttings of small, semi-mature shoots in July and August. These are rooted in a cold frame, planted out in another cold frame in spring, to be lifted the following autumn – a process spread over thirteen months.

This time span can be reduced to eleven months by taking larger, 2.5 – 4 cm long, hardwood cuttings in October. If any flower heads are present they should be cut off. The rooted cuttings are ready to lift the following April for growing on in a cold frame. By September the plants will be 10 – 15 cm across, often in flower.

Still further reduction of propagation time to seven months can be achieved where bottom-heated benches are available, using similar hardwood cuttings but inserting them in February. These will be rooted after seven to nine weeks and are planted out into cold frames in April after hardening off. These also will be well developed in September, 10 – 15 cm across.

In each case the newly-inserted cuttings are covered with a sheet of light, transparent plastic (80 – 100 gauge, resembling that used to cover clothes returned from the dry-cleaners). This sheet is placed right down on top of the cuttings, which should be inspected every ten days or so. At these inspections, the sheet can be reversed to prevent conditions becoming too moist. Alternatively, the February hardwood cuttings can go into a mist unit, but the plastic sheet method can be cheaper and can obviate problems associated with 'hard water'. The rooting medium is moss peat alone, in trays. When planting out the rooted cuttings for growing-on, a growing medium of moss peat, fertilised with care owing to the sensitivity of these plants to excess nutrients, has proved satisfactory. Slow release fertilisers, added at the low rate recommended by the manufacturers, have given good results, as have fortnightly drenches of weak (0.5%) solutions of liquid fertilisers. After planting, shaded lights should be

placed on the frames until the transplants are established. Keep the young plants well watered and trim them over twice during the summer to promote bushy growth.

Well grown young plants raised in moss peat can be lifted with a cohesive root ball. It is easy to lift out each plant with its roots in a block of peat by running a knife between the plants. Such specimens can be planted into their permanent quarters, or if for sale stood in trays loosely bedded by shaking peat through them. When being sold they can easily be lifted and bagged, or sold by the tray, perhaps at a lower price. Customers however, may expect all plants to be containerised, easily done with minimum check to these well-rooted young plants.

These quick methods of production have given good results with hardy *Erica*, *Calluna* and *Daboecia*.

Yb Heather Soc. 1994: 11-13

Edward Plummer of Fiddlestone Lodge

J. KENNETH HULME

Treshnish, 72 Parkgate Road, Neston L64 6QQ, South Wirral.

When I took up my appointment at Ness Gardens in 1957 I was introduced to the gardening enthusiasts of the district. The local horticultural society had enjoyed a successful period with some garden-owners and their gardeners playing a part in the society. Houses employing a full-time gardener were quickly becoming less common and enthusiasts who developed and maintained their own garden were coming to the fore.

M. C. Pratt had a fine collection of flowering cherries, under-planted largely with azaleas but here and there with heathers. Most comment however was directed to Edward Plummer at Fiddlestone Lodge. Edward was one of three brothers, one of whom I believe married, whereas the other two lived at Fiddlestone Lodge with a house-keeper. Edward Plummer invited me and a colleague to see his garden, which was one of the most impressive of its type I can remember.

The house was originally a shooting lodge. The property was up-graded and the garden laid out on a sandy hillside. Sandstone blocks were raised to the surface and laid as if nature had intended them to be where they were placed. The undulation of the land was made more varied and exciting, and the promontories were planted with a selection of dwarf conifers and heathers. Plants complementary to heathers were included in the scheme; *Acer palmatum* cultivars, *Eucryphia glutinosa*, *Arbutus unedo* and *Hydrangea* added significantly in selected areas. Background planting included many carefully chosen conifers, *Pteris* species, smaller-leaved rhododendrons and the occasional *Eucalyptus*. On the windward north-west corner was a belt of *Pinus radiata*. Edward Plummer had an eye for plants and a great art in arranging combinations and groupings which maximised qualities of flower and foliage.

He was not in the best of health and only occasionally came around the garden with us. He said "I confer upon you the freedom of the garden, take whatever cuttings you wish". We went with our polythene bags and only the housekeeper cast a questioning eye on our activities. In several seasons we rooted over five thousand heather cuttings, many directly from Edward Plummer's plants, others from young plants taken from the same source earlier and kept in active growth in greenhouses. One member of staff, T. L. Underhill, who later wrote a book on heathers, pointed out that he had rooted in one year over one hundred cuttings from one 2-year old plant. Rooted cuttings were eventually planted out in their final flowering positions, to avoid the added labour of maintaining them in nursery rows and controlling weeds on a vacant site.

Edward Plummer had selected a very good self-sown seedling of *Erica cinerea* which he called 'Plummer's Seedling'; it was at the time the best crimson-red cultivar available and remained so for many years, until perhaps eclipsed by *E. cinerea* 'Stephen Davis'. Edward had also selected a seedling of *E. vagans* which he described as a brighter edition of 'Mrs D. F. Maxwell'. This brighter cultivar he labelled *E. vagans* 'Fiddlestone'.

At Ness we created a jigsaw pattern of heathers on a steep hillside and carefully labelled the plants. About 1961 someone or some group played a practical joke and we found a few hundred metal labels of *Erica* and *Calluna* set in a continuous row along the front of the herbaceous border. We were never quite sure from then on what some cultivars really were. It is possible either *E. vagans* 'Fiddlestone' or 'Mrs D. F. Maxwell' were propagated because by the early 1970s we had only one deep pink cultivar of *E. vagans*.

In our early forays through Edward Plummer's garden he spoke of two golden selections of *E. cinerea*; one, called 'Golden Hue', was vigorous, shy to flower and not very strikingly gold; the other, 'Golden Drop', was rich in colour, quite free flowering but a poor grower. A seedling in the gravel path seemed to combine the qualities of the two established cultivars. It flowered quite freely and had a rich golden tint. We admired the qualities of the seedling pointed out to us, so we propagated the heather at Ness and decided to call it 'Fiddler's Gold'.

In early 1959 Edward Plummer died. His brother sold Fiddlestone Lodge and moved to Church Stretton. The new owner took over in a year, which began quite normally but ended with an

extreme drought in which many plants suffered. Not long after, the winter of 1962-63 destroyed the block of *Pinus radiata*, *Eucalyptus gunnii* and a number of other less hardy species. Edward Plummer's supreme creation never quite recovered its former glory. His efforts in its creation, in the estimation of his housekeeper, hastened his demise. "Moving those stones", she muttered, "brought on some of his troubles." His creation was none-the-less a masterpiece – all who saw it drew inspiration from it. His contribution was seminal in bringing people to appreciate heathers as garden plants.



***Daboecia cantabrica* 'Celtic Star'**

Evergreen subshrub, distinguished by its fleshy, petaloid sepals which are red or pink, to 8 mm long and c. 1.5 mm at the base. The corolla is pale lavender (RHS CC 78C)

refs. *Moorea* 8 (1990): 42-43; *Yb Heather Soc* 1990: 62; *Irish Garden Plant Society Newsletter* 44 (1992): 7 (colour plate).

D. cantabrica is not a particularly variable species in Ireland, but several outstanding cultivars have come from the wild peatlands of Connemara – this cultivar was discovered by Mr and Mrs David McLaughlin on the Errislannan Peninsula, south of Clifden, County Galway, in 1986. The photograph, taken in 1989, shows a portion of the original plant, growing among gorse, in its original habitat.

The flowers are enhanced by the strange, bright red calyx against the pale lavender bell (in shade the calyx is pallid pink). Perhaps seedlings from this will produce other elegant forms later.

D. cantabrica 'Celtic Star' was registered by David McLaughlin with the Heather Society in 1988. The original plant could not be found in 1993 when I visited the site with Ted Oliver.

E. Charles Nelson

A bibliophile's wandering amongst heather's pages

R. J. CLEEVELY

23 Goodwood Close, Midhurst GU29 9JG, West Sussex.

When writing the introduction to the forthcoming index to another volume of the *Yearbook* a year or so ago, I had occasion to comment on the tremendous increase in knowledge about heathers during The Heather Society's existence. During this time the Society's role has steadily become more international and influential in every aspect of the growing and understanding of heathers. Its only 'failure' has been the limited response to the registration of cultivars. This became very apparent to me from the disparity between the lengthy list of names under *Calluna* and the 35 cultivars that have been registered largely by those closely involved with the Society. The astonishing profusion of named cultivars arises from the increased interest in heathers. There is little that can be done to regulate this apart from encouragement for heather growers to comply with the registration system. But extending the practice of comparative examination (e.g. Jones 1990) could eventually rid us of pseudonyms and synonyms. The Smalls' *Handy guide to heathers* (Small & Small 1992) could also help to alleviate future difficulties.

The contents of the *Yearbooks* demonstrate the breadth of this increase in knowledge with articles ranging from the distribution of European heather species and clarification of their nomenclature, to the fascinating subjects of hybridisation and experimentation with the inevitable improvement in such techniques. Further evidence is seen in the recognition of the significance of the heathland community in European vegetation that was emphasized by a meeting on heathers and heathlands held at the Linnean Society in London during 1988 (Small 1989; Jury 1989). That conference included a wide range of topics on heather biology, ecology, distribution and management, all of which made substantial contributions.

During the first decade of The Heather Society, Stevens (1971) had published an authoritative classification of the Ericaceae that discussed the reliability and distribution of some 60 characters present in the family. The Linnean Society meeting also contained a paper on the intriguing occurrence of the sub-family Ericoideae in South Africa, which subsequently became the major review by Ted Oliver (1991). More recently, his collaboration with two ericophile, compatriot photographers (Schumann, Kirsten & Oliver 1992; see Small 1993) enabled all of us to appreciate and enjoy the wealth of the Cape heaths from the comfort of an arm-chair, but may well have prompted 'itchy feet' and a glance at the bank balance.

Heathers in print

All these aspects prompted me to consider the literature of heathers and wonder whether by looking at some of the older works, I could assess and compare changes in knowledge. As an addicted bibliophile little urging was required and I began by looking through the *Yearbooks* to see what references there were to books of the past. Three articles dealt with the subject in the first two volumes. Dr Ronald Gray (1965) briefly discussed those books published during the early interest in Cape heaths, while, inevitably, David McClintock (1970), the Society's current president and eminent bibliophile, produced a fuller bibliography which probably led to his regular contribution of the invaluable 'Recent writings on heathers' in succeeding numbers. In 1969, he had dealt with the recognition of what were termed 'other heathery plants' included in the family Ericaceae (McClintock 1969).

However, hardly an issue in the last volume of the *Yearbook* is without a contribution that deals with the discovery, history or literature of one of the European species of heather. Devotees of Irish heathers, in fact, have been well catered for with a number of accounts of the history of the discovery of species native in that island (e.g. Nelson 1979, 1983, 1984, 1989). The naming of heathers and their first British records have been amongst the subjects tackled by Bert Jones (1986, 1992). Meanwhile the ubiquitous McClintock dealt with countless other subjects ranging from the history of Spanish heathers (McClintock 1983) to a rare book (McClintock 1987), meanwhile supplementing recently his earlier bibliography (McClintock 1993).

Consequently, I felt that there was little else left for me to pursue. Fortunately, as far as I could see there were still a couple of openings in this area. As yet, nobody has mentioned the Sowerby family and their prolonged part-publication *English botany* (1790-1814; 1831-1865) which is a concise record of British botanical finds during the eighteenth and nineteenth centuries, nor J. C. Loudon's *Arboretum et fruticetum Britannicum* (1838), a similar multi-volume work on trees and shrubs. Of course, David McClintock had briefly dealt with *English botany* in his excellent all-embracing *Companion to flowers* (1966), one of the essential books for any gardener's library.

The Sowerbys and *English Botany*

Together with Sir James Edward Smith, James Sowerby embarked upon the publication of a popular large-scale periodical devoted to the description of the British flora and he encouraged botanists throughout the country to submit specimens of their unusual finds. Despite the high quality of Sowerby's accurate and beautiful copper-engraved plates, the work took time to become a financial success (Henry 1975: vol. 2, p. 670). The later members of the Sowerby family were responsible for establishing the Royal Botanic Society which laid out gardens on the south-eastern quarter of Hyde Park that provided one of Victorian London's major attractions for a period.

A later, third edition (Syme 1863-1872)¹ comprised twelve volumes, in which the random sequence of plates of the original publication was abandoned; the illustrations were arranged in order according to a current botanical classification. This re-worked edition of *English botany* is available in most good libraries of the present-day. Appended to many of the revised descriptions is a popular pen-portrait of the plant written by Mrs Phoebe Lankester, and the new text serves to indicate the limited understanding at that period. Of the 22 species of Ericaceae described (Syme 1880; vol. 6, pp 19-54) only six are heathers, with Mackay's heath (*Erica mackaiana*) included as a subspecies of the cross-leaved heath (*E. tetralix*), whilst the hybrid between *E. tetralix* and the Dorset heath (*E. ciliaris*), found on two occasions near Truro, is specially treated. Syme used "eu-tetralix" as the specific epithet for the cross-leaved heath (*E. tetralix*). Two varieties of *Calluna* were distinguished.

Amongst the generalities provided by Mrs Lankester (Syme 1880: p. 38) was the information that among the Highland clans the Macdonalds wore cross-leaved heath (*E. tetralix*) as a badge, the Macalisters used bell heather (*E. cinerea*) and the Macdonnells took advantage of the more prolific ling (*Calluna vulgaris*). In a lengthy account, she elaborated on the uses to which ling has been put throughout history and ends with a few poetical quotations (Syme 1880: pp 44–45). In a footnote, Syme mentioned (1880: p. 35) that the name *Erica* is derived from the Greek *ερεκυ* (EREIKO)² which means 'I break' referring to the idea that some of the species destroy the stones formed in the human body by lithic acid. The only reference to such usage by Geoffrey Grigson (1958: p. 259) is under bearberry (*Arctostaphylos uva-ursi*).

The original drawings for Sowerby's *English botany* were purchased by The British Museum in 1859 and 1862, and these are now in the Botany Library of The Natural History Museum, South Kensington. Garry (1903, 1904) published notes on these originals that combined the details of the various editions with manuscript information about the sources of the plants. The brief notes about the heathers (Garry 1903: pp 119–120) add to the details on the first discovery of the Dorset heath (*E. ciliaris*) noted by Jones (1986) and supply some early evidence of the use of heathers in the garden.

E. cinerea. Dr. Smith, Aug. 1801. Common on heaths about London.

Other specimens were labelled 'Marquis of Bath' with a letter from the Marchioness of Bath:

Three years ago a plant of heath was found similar to the inclosed specimen, and it was taken up and planted in a peat border in the garden, where it has continued to produce similar blossoms every year. The present specimen was taken from a plant (where there are several more) about a mile distant from the spot where the former grew.

J. C. Loudon

John Claudius Loudon was a very practical gardener and horticulturist, as well as being a talented architect and writer. His career and influence on many aspects of British life was covered by Gloag (1970), whilst his wife Jane is regarded as the first

professional lady gardener (Howe 1961) and the precursor of the more widely known figures of our own time such as Gertrude Jekyll and Marjorie Fish.

In Loudon's arrangement of the Ericaceae (1842: pp 552-583) the heathers are classified in a section labelled *Ericae normales*. Four species – *E. tetralix*, *E. cinerea*, *E. australis* and *E. ciliaris* – were listed under *Erica*; *E. vagans*, *E. multiflora*, *E. carnea* and *E. mediterranea* under *Gypsocallis*; with just *E. vulgaris* under *Calluna*. Most of these 'species' were followed by a list of other forms or varieties.

Gypsocallis was distinguished from *Erica* by its 'exserted anthers, flattened filaments and simple stigma'. Apart from differences of classification, another feature of these older references is the diversity of the common names that existed. Although somewhat poetic, I rather like the attribution of 'The wandering Gypsocallis', or Cornish Moor-Heath, for *E. vagans*.

In his general account of garden requirements and propagation, Loudon advised that 'all species are propagated by layers, or division, or by cuttings from the points of the growing shoots'. These need to be 'planted, but not deep, in pure sand and covered with a hand-glass'. 'All plants require a peaty soil, mixed with sand; a cool subsoil, moist rather than dry; and an open airy situation. They also require to be removed every 3 or 4 years.

Among his comments on the various species listed are the following —

- | | |
|---------------------|---|
| <i>australis</i> | one of the most showy of all arborescent heaths and flowering profusely when planted in an open situation; |
| <i>ciliaris</i> | a comparatively rare and very beautiful species; |
| <i>mediterranea</i> | the hardiest of arborescent heaths in British gardens; though plants at Syon, which had stood upwards of half a century and were above 10 ft high, were killed to the ground by the winter of 1837-8. |

The abridged edition was marketed on the basis of the statement that 'the Author has been able to obtain figures of nearly all the species' and it is necessary now to examine these in order to determine the nature of the plants he referred to.

These extracts might encourage further browsing in the older literature. If you can gain access to a copy of Blanche Henrey's magisterial *British botanical and horticultural literature before 1800*, you might decide that there are other works that deserve exploration. At the very least, you could enjoy the three plates of exotic species *Erica grandiflora*, *E. viscaria* and *E. conspicua*, that are reproduced there from Bauer's work dealing with foreign plants cultivated at Kew during that period (Bauer 1796).

John Clare

One of the anniversaries commemorated in 1993 has been that of the natural history poet John Clare (1793–1864). He spent virtually all his life in Northamptonshire, witnessed the dire effects of the Enclosure Act on the rural population, their life and the agricultural environment. Both his poetry and prose reflect his acute observation of the life of the countryside. It therefore seemed appropriate that this foray into literature should close with some references to his work. At one time Clare was encouraged by his publisher to record his observations in prose and these attempts have been collated and transcribed by the late Margaret Grainger (1983). The references to heather are limited:

Heath – we have two sorts of this plant in a wild state one very common called Ling, which the poor people get in winter to make into beesoms; the other is rather scarce with a deal larger flowers of a fine purple the leaves grow round the stalk at short distances like those of the 'Lady's bedstraw'.

(Grainger 1983:19)

In a footnote, Grainger indicates that there is some confusion here, for *E. tetralix* with its leaves in whorls of four, besides having pink flowers is very rare in that region (only recorded at Holme and Woodwalton Fen), whereas the purple-flowered bell heather (*E. cinerea*) is more likely. Yet, Clare later in the following spring of 1825 (Grainger 1983: 62) refers to cross-leaved heath growing on Wittering Heath. At this season, he also tried to establish plants of *Calluna* collected from Ailsworth Heath in his own garden. In a fragment from an earlier letter written about 1823 (Grainger 1983: 25), Clare had referred to the 'fine heath' with barrel-shaped flowers swelling in the middle and narrowing at the end that 'grew on Wittering Heath and no where else in the county', and that it was one of three plants in

the neighbourhood sought after by the curious. This confusion over identification is odd for Clare is normally accurate with his observations and also had competent botanists amongst his local friends. More information on the past environments at these Northamptonshire localities might help to clarify Clare's account for it might be possible to make use of the particular ecological preferences of *E. tetralix* and *E. cinerea* described by Nigel Webb (1986), and these together with the identification chart of characters he provided (Webb 1986: 114) would serve to verify Clare's references.

The wide open spaces of heathland provided John Clare with enjoyment and subjects for his poetry, but in other instances contributed to his uncertainty and fear because of their expanse and through their association with old wives tales and magic. However, the opening phrase of an early poem, 'The Heath' —

O I love the dear wild and the outstretching heath,
With its sweet swelling uplands and downs
When I toil up the path till I'm half out of breath
While the oakwood the distance embrowns"

— serves to demonstrate his normal attitude, whilst the phrase in another verse —

... and Ling
Blushing red underneath is most sweet to behold

— will serve as a finale to this particular excursion into the past.

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Notes

1. John Thomas Irvine Syme (b. 1822; d. 1888) was born in Kirkaldy, Scotland, but in common with a number of fashionable gentlemen of the time changed his own name to accommodate that of his wife, often to benefit from a family fortune. Confusingly, Syme became Boswell-Syme and furthermore towards the end of his life only used his wife's family name Boswell. As McClintock (1966: 81) pointed out 'Syme' is normally used as the authority for the plant names that he published (for a full list of biographical references see Desmond (1977: 78)).

2. This offers an alternative to the assumption that 'I break' refers to the ease with which the stems of heathers are broken. Stearn (1971: 133) merely cited the Latin *erica*, and the Greek *ερεκη* without providing a derivation or explanation.



***Daboecia cantabrica* 'Charles Nelson'**

Evergreen subshrub, differing from all other cultivars of *D. cantabrica* in its "double" flowers. The corolla is pale lavender (RHS CC 78C)

refs. *Yb Heather Soc.* 1982: 32-33; Nelson, *An Irish flower garden* (1984); *The Irish garden* 2 (6) (1993): 12-13 (colour plate).

D. cantabrica has a large, urn-shaped, hollow corolla, inside which are 8 stamens and a single pistil. This plant is extraordinary in that sometimes normal flowers are produced (for example, the first blossoms of the year) but all the subsequent blooms are "double", the corolla being filled, almost to bursting, with countless petaloid structures. Furthermore, when withered, the flowers remain attached to their stalks – the corolla normally drops off after pollination. 'Charles Nelson' was discovered at Carna, County Galway, in August 1978; the original plant is still flourishing beside a rock wall on the bohreen where I found it sixteen years ago – Ted Oliver and I saw it in August 1993.

E. Charles Nelson

***Erica* spp. in North Cyprus**

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Of the two *Erica* species native to Cyprus, *E. sicula* Guss. occurs predominantly, and *E. manipuliflora* Salisb. (*E. verticillata* Forssk.) exclusively in now (Turkish) North Cyprus (Meikle 1985: 1060).

Of the eight or so northern sites for *E. sicula* mentioned by Meikle, McClintock and I together visited one of the most spectacular in 1990 (McClintock 1991). These were the sheer dolomite bluffs [a] extending for half a mile or so on the left side of the tarmac road leading south-westwards up from Esentepe (or Karaağaç) just before the 600m crest, where the road turns down past the Alevkaya forest station (and herbarium) towards the plain.

Another site [b] we explored – not previously recorded – is the gorge rising northwards from an abandoned wellhead at the top of a scenic mountain path leading for about a mile westwards from the village of Karaman. Yet another [c] was the north face of a small road that goes due west from the entrance gate of St Hilarion Castle; this road continues along to the end of the range, but the peak in question is about a mile beyond the first point where one suddenly has simultaneous views of the Central Plain and of the sea (or even of Turkey). All these sites, and several others mentioned by Meikle (1985), are also north-facing. However, considerable hummocks of *E. sicula* can also be seen (but not reached!) by walkers taking the steep path [d] up the northern face of Buffavento.

The other Cypriot heather, *E. manipuliflora*, is a woodland plant of the lower limestone slopes. The Kormakiti (now Sadrazamköy) location quoted by Meikle (1985) I have been unable to trace; the other, 'N.E. of Akanthou' (now Tathisu), proved tricky as it was pinpointed between two hills whose Greek names were unknown to the present villagers. However, an observant shepherd soon directed a forester and myself to the 'waist-high plant with little pink bells' that we had asked for, and this was the location [e] David and I later revisited; it was a wood notable for the abundance of Mediterranean

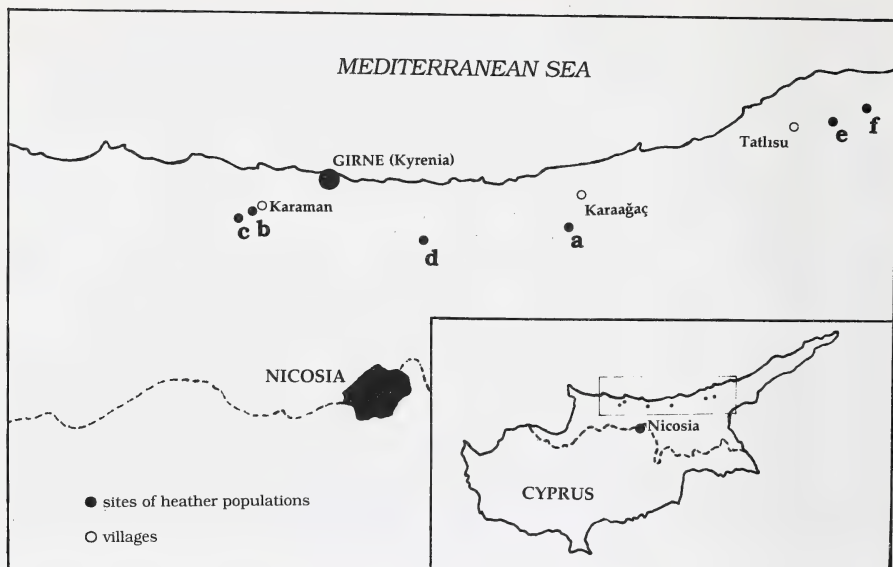


Fig. 1 Northern Cyprus, showing *Erica* habitats noted in text.

buckthorn, *Rhamnus alaternus* L., not a common tree here.

Over the last two years the same forester has reported a new site [f] where there is a 'great deal' of *E. manipuliflora*. This is in the lower slopes above Mersinlik (formerly Phlamoudhi), an area now being opened up by re-forestation projects but only negotiable in a 4-wheel-drive vehicle. The whole area has proved of great botanical interest, the maquis featuring not only *Rhamnus alaternus* alongside *Arbutus unedo* L., *Styrax*, *Myrtus* and *Pistacia* spp., but *Phillyrea latifolia* L. and *Viburnum tinus* L. (not previously known as a native to Cyprus). One ravine even sports a series of limestone-bowl cascades with water splashing down in July – a unique and grateful sight in this parched land. Hereabouts our forester said he had also seen an *Erica* 'with larger flowers' – no doubt *E. sicula* once again.

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Some speculations on colourful foliage in heathers

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Why do some heathers have yellow foliage?

All flowering plants, heathers included (but parasites excluded), have green foliage due to the presence of chlorophyll. However, some of the other pigments in green leaves are yellow. These pigments, called carotenoids (they make carrots orange), are generally hidden by the chlorophyll, but are revealed under certain conditions when the chlorophyll is broken down, for example in autumn leaves, or in grass which has been covered for a week by a tent. It seems likely that in yellow-foliaged heathers there has been a mutation which leads to a disproportionately small amount of chlorophyll being made (see Appendixes). This short-fall in chlorophyll allows the yellow of the carotenoids to show through, and explains the lack of vigour of yellow-foliaged cultivars compared with green-foliaged ones.

Why do orange and red-foliaged cultivars have pink flowers and yellow ones white flowers?

This general rule holds for all heathers, although there is an odd exceptional cultivar — *Calluna vulgaris* 'Rosalind Underwood's Variety', for example. Flower colour in heathers is determined mainly by another series of pigments called anthocyanins, which are generally pink, red or purple. The petals of white flowers contain no anthocyanins. Anthocyanins are also found in leaves, although their presence is usually masked by other pigments, particularly chlorophyll. You may have noticed that, in general, white-flowered cultivars have light or bright green foliage, whereas dark-flowered cultivars have dark green foliage. Foliage is darkened by the anthocyanins — in fact, if you look closely at some dark-foliaged plants, the leaves actually appear purple rather than green. With coloured foliage cultivars, anthocyanins plus carotenoids give the

orange or red colour. Hence red- and orange-foliaged cultivars differ from yellow-foliaged ones because of the presence of anthocyanins, which give both pink flowers and tinted foliage (see Appendix II).

Why do foliage cultivars change colour in the winter?

Nearly all foliage cultivars change colour with the seasons, but often in different ways. In general, yellow-foliaged heathers show their best colour in summer, whereas red-foliaged cultivars "colour-up" for the winter. This can be explained simply by considering the origin of the colours in the two cases. In green plants, chlorophyll and carotenoids are manufactured from a number of chemicals, known as precursors, which are also produced in the plants. Synthesis of these precursors is stimulated by light, and thus is most rapid during the summer when light levels are high. In the summer, synthesis of the precursors outstrips the ability of the plants to convert them to chlorophyll — remember foliage cultivars have a mutation which slows down this conversion — so a high proportion is converted to carotenoids and the leaves appear to become more yellow. In the winter, or in shady conditions, synthesis of the precursors is reduced, and the plants can convert a higher proportion of precursors to chlorophyll, so the leaves turn lime-green. In contrast, the major stimulus for anthocyanin production seems to be various kinds of stress. Drought, ultra-violet (UV) light and disease will all increase anthocyanin synthesis, but in healthy plants the commonest stress is caused by frost and cold winds at the onset of winter. Hence, in autumn, there is a surge of anthocyanin synthesis which turns light green foliage "bronze", and orange foliage red. White-flowered cultivars do not react in the same way as they lack anthocyanins.

Why do some foliage cultivars burn in the sun?

Some foliage cultivars are notoriously prone to "sunburn", the leaves going brown during the summer in sunny areas. The damage is probably due to UV light, in the same way that humans burn in the sun. In general, yellow-foliaged cultivars are more sensitive than red-foliaged heathers. Once again this results from the differences in anthocyanin levels.

Anthocyanins belong to a group of compounds known as phenylpropanoids which have the virtue of absorbing UV light. One

of their rôles in plants is to act as a sun screen, and thus yellow-foliaged cultivars (lacking anthocyanins), like fair-skinned people (lacking melanin), are more prone to sunburn.

Why do some heathers have coloured tips in spring?

The coloured new growth of hybrids and "spring-tipped" *Calluna* cultivars is an attractive and distinctive character which results from a block in chlorophyll synthesis in the same manner as in coloured foliage cultivars. However, in this case, carotenoid synthesis is also blocked. Chlorophyll and carotenoids are both synthesized and contained in chloroplasts, small structures within the cells of all green plants. The fact that the synthesis of both types of pigment is affected in "spring-tipped" cultivars suggests that the chloroplasts do not develop properly. "Spring tips" are generally either cream (in white-flowered cultivars, without anthocyanins) or pink (in pink-flowered cultivars that manufacture anthocyanins). Once the block has been overcome, chlorophyll synthesis proceeds and during early summer the leaves rapidly turn green.

Why do *Erica* hybrids have coloured tips in spring?

Owing to their independent origin, chloroplasts are not inherited like other characters — chloroplasts are "semi-autonomous" structures which are thought to be derived from photosynthetic (green) bacteria that "took refuge" in other cells early in the evolution of plants. In fact, in most plants, all the chloroplasts come from the seed-parent ("mother" plant), and none pass via the pollen (from the "father" plant). This means that when a hybrid is formed, half the genetic information (that coming via the pollen) is not adapted to work with the chloroplasts present in the hybrid. It is probable that the incompatibilities resulting from this situation lead to retarded chloroplast development and a temporary lack of chlorophyll in young tissue, for example in shoot tips. We would expect that the further the genetic distance between the two parents — in other words, the less closely related the parent *Erica* species are — the worse the incompatibility and therefore the longer the heather will be "spring-tipped". It will be interesting to compare the spring foliage of some of the new artificial hybrids with those that occur naturally.

Why do some *Calluna* cultivars have coloured tips in spring?

If chloroplast incompatibility is the explanation for coloured spring foliage in *Erica* hybrids, what does this imply for *Calluna vulgaris* cultivars with "spring tips"? *Calluna vulgaris* has a very wide geographical distribution, and probably hundreds of thousands of years of independent evolution separate *Calluna* populations in, for example, Ireland, Sweden, Spain and Russia. During this time chloroplasts have had time to mutate considerably in the different populations — remember chloroplasts do not pass via pollen, so different chloroplast lineages remain very localised. The introduction into gardens of cultivars from different populations thus allows hybrids to form between plants with distinct chloroplast lineages from widely separated regions, resulting in the same type of incompatibility that creates coloured spring foliage. This hypothesis predicts that seedlings with coloured spring foliage should be much more frequent in gardens than in the wild. It may even be possible to create new "spring-tipped" cultivars deliberately by crossing cultivars with very different origins.

Why do some cultivars have variegated foliage?

The term "variegated" actually covers several different phenomena which have different causes. In heathers "variegated foliage" usually signifies random flecking of leaves or shoots with cream or pink. As for "spring-tipped" cultivars, the colour probably results from a block in chloroplast development, and again the flecks are either cream or pink depending on the presence or absence of anthocyanins.

Variegated plants are chimaeras; the green sectors of the leaves contain normal chloroplasts, but the coloured sectors have no chloroplasts or defective chloroplasts that do not contain chlorophyll. Such cultivars can be divided into two classes based on the results of taking cuttings of entirely green sectors. In some cultivars (e.g. *Calluna vulgaris* 'Goldsworth Crimson Variegated') these cuttings will still result in variegated plants, whilst for other cultivars (e.g. *Daboecia x scotica* 'William Buchanan Gold') the resulting plants will be entirely green. In the former case, the initial mutation is present in all the cells of the plant, not directly visible, but capable of inducing chloroplast mutations that show up as variegated sectors. In the latter case the initial mutation is in the chloroplast, and is

only present in the coloured sectors, hence the necessity to take variegated shoots when taking cuttings. Unfortunately, in both cases, entirely coloured shoots are not viable due to their inability to photosynthesize.

How are foliage colours inherited?

If the above hypotheses are correct then the following relationships should apply:

green foliage is dominant over red and yellow

red foliage is dominant to yellow

pink flowers are dominant to white.

Exceptions would be characters carried by chloroplasts, suggesting that coloured "spring tips" and some variegated traits may fall into this category. Given suitable partners in crosses, these characters should show up in all progeny if the plant is used as the seed parent and in none of the progeny if it is used as the pollen parent.

Appendix I

The chlorophyll and carotenoid content of foliage are fat-soluble as opposed to anthocyanins which are water-soluble. Thus the quantities of these pigments in plant tissues can be measured by making extracts in organic solvents and then measuring the absorption in the visible part of the spectrum. Chlorophyll is green because it absorbs strongly in the red (>600nm) and blue (<500nm) parts of the spectrum but lets pass green light (500-550nm). Carotenoids absorb strongly in the blue region.

Fig. 1 (p. 32) shows a comparison between the absorption spectra for typical green-foliaged or yellow-foliaged cultivars. Subtraction of the green absorption spectrum from the yellow spectrum gives the difference spectrum which shows two peaks (445nm, 475nm) that are characteristic of carotenoids. From these sorts of spectra one can estimate the amounts of the different pigments present in the leaves.

<i>Erica carnea</i> cultivar	Chlorophyll	Carotenoids	ratio
'Porter's Red'	1130	290	3.9
'Westwood Yellow'	200	150	1.3

Pigment contents were calculated according to Lichtenthaler (*Methods in Enzymology*, 148 (1987): 350-382) and are given in mg/g fresh weight.

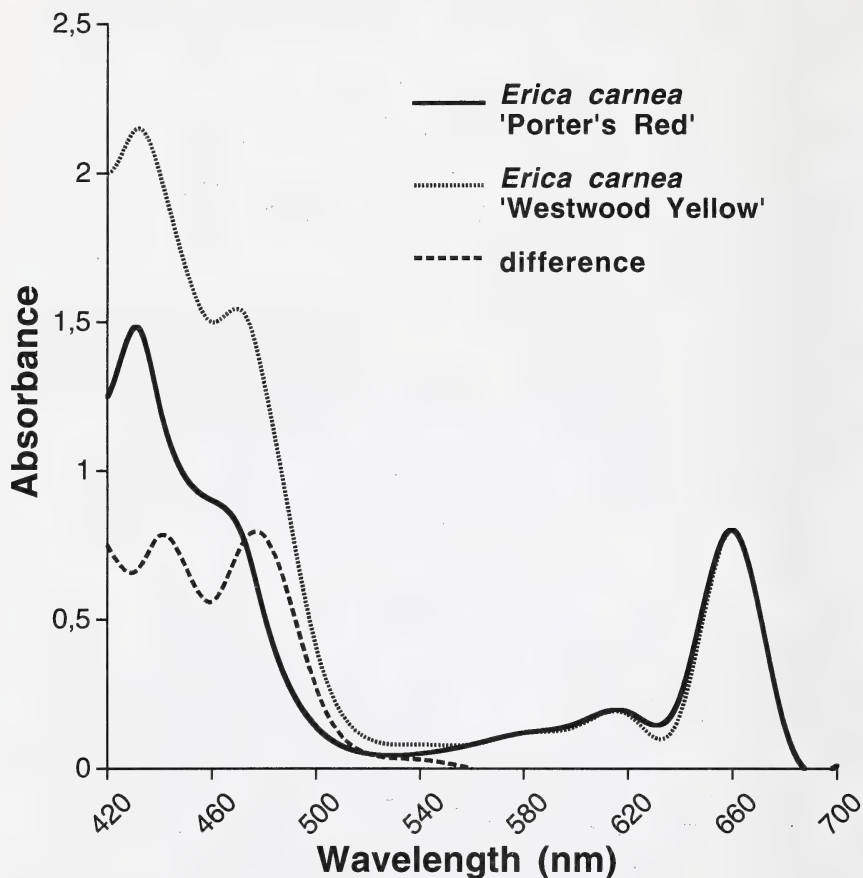


Fig. 1 Comparison between the absorption spectra for typical green-foliaged or yellow-foliaged cultivars.

Leaf pigments were extracted from one gram of foliage of *E. carnea* 'Westwood Yellow' (yellow foliage) and from one gram of foliage from *E. carnea* 'Porter's Red' (green foliage). Extraction was carried out by freezing the foliage in liquid nitrogen, grinding in a pestle and mortar and then solubilising the pigments in 10ml of 80% (v/v) acetone. The extract was cleared by centrifugation at 12,000g for 15 minutes. The absorbance of the extracts was measured in a Kontron Uvikon 860 spectrophotometer between 420 and 700nm. To bring the chlorophyll concentrations (judged by the peak at 660nm) to the same level, 'Porter's Red' extract was diluted 10-fold, and 'Westwood Yellow' extract was diluted 2-fold. The difference between the two absorption spectra is shown as a dashed line.

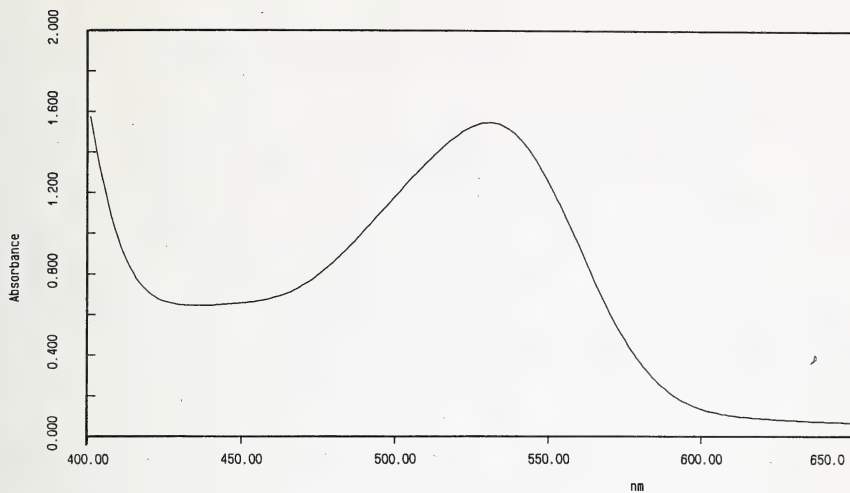


Fig. 2 Absorption spectrum of leaf pigments in *Erica carnea* 'Ann Sparkes'.

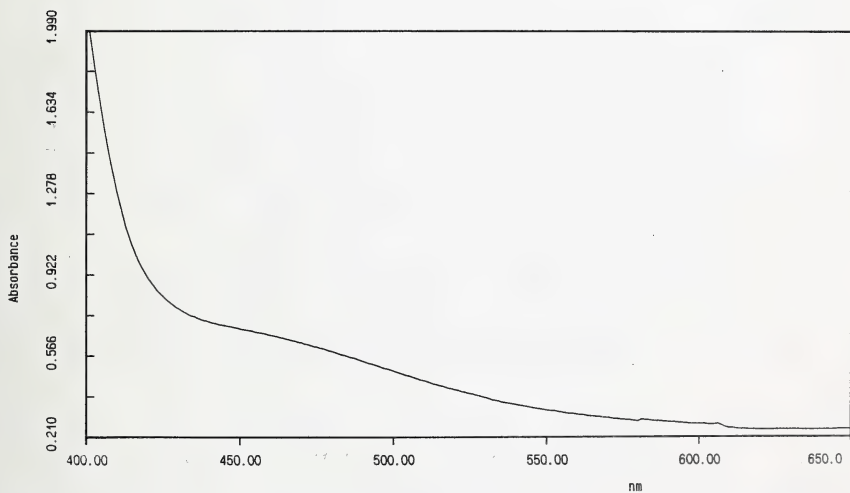


Fig. 3 Absorption spectrum for leaf pigments from *Erica carnea* 'Westwood Yellow'.

Most green plants have a chlorophyll to carotenoid ratio of about 4 and heathers are no exception. However, as is clear from the table, in yellow-foliage cultivars this ratio is considerably smaller due to the substantial reduction in chlorophyll content.

Appendix II

The anthocyanin (red colour) content of the foliage can be measured by making leaf extracts in an aqueous solution and determining the absorbance in the green part of the spectrum (c. 530 nm).

Extraction of anthocyanins from leaves was carried out by grinding 1g of frozen tissue in a pestle and mortar and solubilising the pigments in 1 ml of acidified methanol (1% HCl). To this was added 1ml of 25 % methanol and 1 ml chloroform. After vortexing and centrifugation at 12,000g for one minute, the upper aqueous layer was removed and its absorbance measured in a Cecil CE5501 spectrophotometer between 400 and 600 nm, serially diluted as necessary.

The graphs (Figs 2 & 3) show a comparison between the absorption spectra for a typical red-foliaged cultivar (*Erica carnea* 'Ann Sparkes') and a typical yellow-foliaged cultivar (*E. carnea* 'Westwood Yellow').

The following table gives absorption values at 530nm/g of leaf tissue of a representative sample of heather cultivars.

Erica

<i>E. carnea</i> 'Ann Sparkes'	10.45
<i>E. carnea</i> 'Myretoun Ruby'	1.52
<i>E. carnea</i> 'Westwood Yellow'	0.83
<i>E. carnea</i> 'Golden Starlet'	0.15

Calluna

<i>C. vulgaris</i> 'Red Carpet'	3.28
<i>C. vulgaris</i> 'Dart's Amethyst'	1.74
<i>C. vulgaris</i> 'Ross Hutton'	1.26
<i>C. vulgaris</i> 'Whiteness'	1.15

CULTIVAR AND SPECIES NOTES

CULTIVARS REGISTERED IN 1993

117 *Erica carnea* 'Ice Princess'

Registered 19 February 1993: David Small, Creting St Mary, UK.

[new name]

White flowers: a hybrid (W230: 'Springwood White' x 'Snow Queen') raised by Kurt Kramer in 1984; differs from 'Isabell' in its slightly smaller corolla, much smaller than 'Schneekuppe'.

118 *Erica carnea* 'Winter Snow'

Registered 19 February 1993: David Small, Creting St Mary, UK.

[new name]

White flowers: a hybrid (W205: 'Springwood White' x 'Snow Queen') also raised in 1984 by Kurt Kramer; more erect than 'Schneekuppe', blooming later, and calyx half the length.

119 *Erica carnea* 'Jason Attwater'

Registered 19 February 1993: David Small, Creting St Mary, UK.

Named in memory of Jason, infant son of David Attwater. [new name]

Some shoots yellow, later fading to green; shell pink (H6) flowers rapidly deepening to pink (H8); habit spreading. Wild-collected: found by David Small by the Plansee, Austria, in 1982.

120 *Erica x stuartii* 'Irish Rose'

Registered 26 July 1993: David McLaughlin, Omagh, N. Ireland, UK.

Ref: *Yb Heather Soc.* 1993: 44.

Young shoots long, pink. Wild-collected; found by David McLaughlin by Lough Nacung, County Donegal, Ireland, in June 1989.

121 *Calluna vulgaris* 'Colette'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Ref: *Yb Heather Soc.* 1993: 48.

Vigorous with creamy, reddish-orange young shoots; flowers deep crimson. A seedling found in J. G. Flecken's garden, Kerkrade, The Netherlands, in 1983.

122 *Calluna vulgaris* 'Jos' Lemon'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Ref: *Yb Heather Soc.* 1993: 44.

Creamy-yellow young shoots; flowers white. A seedling found in J. G. Flecken's garden, Kerkrade, The Netherlands, in 1983.

123 *Calluna vulgaris* 'Little John'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Refs: *Yb Heather Soc.* 1989: 64; *Yb Heather Soc.* 1993: 49.

Compact, floriferous dwarf cultivar, foliage green; flowers lilac-pink (H11). A seedling found on the grave of J. G. Flecken's father at Kerkrade-Holz, The Netherlands.

124 *Erica cinerea* 'Jos' Golden'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Ref: *Yb Heather Soc.* 1993: 44.

Young shoots golden-yellow, turning rusty-red; flowers purple (H9-10). A sport found in J. G. Flecken's garden, Kerkrade, The Netherlands, during 1988 on a plant that had been collected in the wild at Lande de Fréhel, Brittany, France.

125 *Erica cinerea* 'Jos' Honeymoon'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Ref: *Yb Heather Soc.* 1993: 44.

Leaves bright yellow. A sport on 'Honeymoon', found in 1989 in J. G. Flecken's garden, Kerkrade, The Netherlands.

126 *Erica tetralix* 'Jos' Creeping'

Registered 23 December 1993: J. G. Flecken, Kerkrade, Netherlands.

Ref: *Yb Heather Soc.* 1993: 44.

Shoots prostrate, creeping; flowers soft pink (H8). Wild-collected; found in 1985, growing near the sea at Ploumanac'h, Brittany, France.

compiled by **D. McCLINTOCK** (Registrar)

NEW ACQUISITIONS

Bruckenthalia spiculifolia**[unnamed compact form]**

A seedling produced by Kurt Kramer, Edeweicht-Süddorf, Germany.

Foliage dark green; plant reaching c.5 cm tall, and c.15 cm across. Flowers rose, July-August.

A small gem.

Calluna vulgaris**'Alieke'**

A seedling found by A. van de Berg, Ede, The Netherlands, before 1987.

Ref: *Yb Heather Soc.* 1991: 39.

Foliage yellow-orange throughout the year; habit low, open, twisting. Flowers mauve. September-October.

'Eleonore'

A sport on 'Tib' found in 1980s by E. H. Becker, Borstel-Hahnrode, Germany.

Ref: *Yb Heather Soc.* 1988: 55.

Foliage dark green; habit spreading, open. Flowers double, silver-rose, July-October.

'Highland Cream'

A sport on 'Darkness', from Highland Heathers, Achahoish, Argyll, before 1992.

Foliage cream in spring and early summer, later silvery grey-green; habit erect, broad, vigorous. Flowers pink (H8), August-September.

'Jill'

A sport on 'Sister Anne', found by Mr S. Crabtree, Eversley Nurseries, Hesketh Bank, near Preston, before 1993.

Foliage grey-green in summer, with cream and pink tips in spring; habit like that of 'Sister Anne'. Flowers mauve (H2), September.

'Leprechaun'

A spontaneous seedling found by Clive Benson, Farington, Preston, Lancashire, in his nursery, before 1993.

Foliage yellow-green, turning rusty red in winter; habit prostrate, dense. Flowers mauve, September-October.

'Loni'

A seedling found by F. Kircher, Hamburg, Germany, before 1989.

Ref: *Yb Heather Soc.* 1990: 66

Foliage yellow-green in summer, later bronze-red; habit erect. Flowers deep violet-red, August-October.

'Marlies'

A sport on 'Marleen', found by H. Tüber, Gescher, Südlöhner Dam, Germany, in 1991.

Ref: *Yb Heather Soc.* 1992: 66; *Ericultura* **83** (1991): 19; — **90** (1993): 10

Dark green foliage; habit broad, erect. Flowers red, with a duplicated calyx; buds deeper red than 'Marleen'.

'Moon Glow'

A seedling from A. Bosch, Westerlee, The Netherlands, in 1992.

Ref: *Yb Heather Soc.* 1993: 45; *Ericultura* **87** (1992): 4

Foliage green in summer, later shoot tips turn orange-yellow, in winter to spring leaves are red-orange; habit low, spreading. Flowers violet-rose, July-September.

'Olympic Gold'

A sport on 'Wickwar Flame', from A. Bosch, Westerlee, The Netherlands, in 1988.

Ref: *Ericultura* **79** (1990): 5; *Heather News* **14** (4) (1991): 11.

Foliage yellow throughout the year; habit bushy, erect. Flowers violet-rose, August-September.

'Red Rip'

From Ripkens Nursery, Niederrhein, Germany, before 1991.

Ref: *Yb Heather Soc.* 1993: 46

Foliage dark green; habit semi-prostrate. Flowers deep red, September-October.

'Wollmer's Weisse'

A sport on 'Radnor' found by G. Wollmer, Fühlendorf, Germany, before 1992.

Ref: *Yb Heather Soc.* 1993: 47

Foliage dark green; habit erect, broad. Flowers white, double, August-September.

Daboecia cantabrica**'Tinkerbell'**

A seedling from Clive Benson's nursery, near Leyland, Lancashire.

Foliage mid-green; habit compact, low. Flowers rose pink, June-October.

Daboecia x scotica**'Nancy'**

A seedling, found by John Proudfoot, Methven, Perthshire, Scotland, in his nursery about 1985.

Ref: *Yb Heather Soc.* 1992: 66; *Ericultura* **89** (1993): 13.

Leaves small, dark green; habit compact (lower than 'Cora'). Flower spikes short; flowers large, amethyst, June-October.

Erica carnea**'Nathalie'**

A seedling (No. 271) raised by Kurt Kramer, Edewecht-Süddorf, Germany, from 'Myretoun Ruby'.

Ref: *Yb Heather Soc.* 1993: 45, 51; *Ericultura* **87** (1991): 22; — **90** (1993): 5; *Der heidegarten* **32** (1992): 22.

A distinctive plant. Foliage dark green; habit compact. Flowers deep magenta, late winter.

compiled by **J. PLATT**

Fern Bank, 176 Southport Road, Ulnes-Walton PR5 3LN, Lancashire

The descriptions in this list were made from plants that were two years old. These were grown in open ground in a small garden on the coastal plain in north-western England. The soil is a heavy clay. The heather garden is top-dressed with moss peat.

NEW SPECIES & COMBINATIONS

Erica barbigeroides E. G. H. Oliver

Bothalia 23: 1 (1993); new name for *Blaeria revoluta* Bartl. (*Blaeria* "barbigera")

Erica chiroptera E. G. H. Oliver

Bothalia 23: 9 (1993); new species; the epithet refers to the anthers which are dorsiventrally flattened and resemble the heads of bats (Order *Chiroptera*)

Erica ericoides (L.) E. G. H. Oliver

Bothalia 23: 3 (1993); comb. nov. (basonym *Blaeria ericoides* L.)

Erica hermani E. G. H. Oliver

Bothalia 23: 11 (1993); new species from Hermanus, Cape of Good Hope

Erica ioniana E. G. H. Oliver

Bothalia 23: 12 (1993); new species, made known to Ted Oliver by Dr Ion Williams; from Hermanus

Erica klotzschii (Alm & Fries) E. G. H. Oliver

Bothalia 23: 4 (1993); comb. nov. (basonym *Blaeria klotzschii* Alm & Fries)

Erica longimontana E. G. H. Oliver

Bothalia 23: 4 (1993); new name (= *Blaeria coccinea* Klotzsch) epithet is the Latin equivalent of Langeberg, the species' habitat

Erica multiflexuosa E. G. H. Oliver

Bothalia 23: 4 (1993); new name (= *Blaeria flexuosa* Benth.)

Erica russakiana E. G. H. Oliver

Bothalia 23: 5 (1993); new name (= *Blaeria kraussiana* Walpers) epithet is formed from an anagram of Krauss, and thus continues to commemorate Ferdinand Krauss.

CULTIVAR NAMES NEW TO THE REGISTRAR

Editorial note — because some of the names listed below are not validly published according to the internationally accepted code of nomenclature for cultivated plants, all descriptive phrases, which would validate these names herein, have been omitted. Members are reminded that they should abide by the code of nomenclature when naming new cultivars. **E.C.N.**

'Alexandra'	<i>Calluna vulgaris</i>	Seedling from Kurt Kramer, Edewecht-Süddorf, Germany
'Anette'	<i>Calluna vulgaris</i>	Sport on 'Melanie' with P. Wolf, Seligenstadt, Germany
'Anja Bakker'	<i>Erica cinerea</i>	Seedling from J. Dahm, Bemmelen, The Netherlands; seed-parent 'Herman Dijkhuizen'
'Ashdown Forest'	<i>Erica cinerea</i>	From D. Wilson, Sardis British Columbia, Canada
'Barbera'	<i>Calluna vulgaris</i>	From R. de Winkel, Goch, Germany

'Bay Port'	<i>Calluna vulgaris</i>	From R. M. Steele, Rose Bay, Nova Scotia, Canada, in 1993; listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Bemmel'	<i>Erica cinerea</i>	Seedling from J. Dahm, Bemmel, The Netherlands; seed-parent 'Herman Dijkhuizen'
'Bennachie Prostrate'	<i>Calluna vulgaris</i>	Wild seedling from Scotland, found by D. Mackay
'Bognie Crimson'	<i>Calluna vulgaris</i>	Grown at Valley Gardens, Windsor Great Park, received from RHS Gardens, Wisley
'Bubbles'	<i>Daboecia cantabrica</i>	Seedling from a garden in Cumbria, England, from D. Richards
'Chase White'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Cuprette'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Dagmar'	<i>Calluna vulgaris</i>	from R. de Winkel, Goch, Germany
'Daniel Whiddon'	<i>Daboecia cantabrica</i>	source unknown
'Duane's Seedling'	<i>Erica carnea</i>	A seedling found in a garden at Golden, British Columbia (alt. 1000 m asl); from D. Wilson, Sardis, British Columbia
'Flaming Silver'	<i>Calluna vulgaris</i>	Sport on 'Silver Knight'
'Flora' [illegitimate]	<i>Calluna vulgaris</i>	From Bueckers — may be the same as 'Perestrojka'
'Glamour'	<i>Daboecia cantabrica</i>	Seedling from S. Ketelaar, Nieuwegein The Netherlands
'Gleaneagles'	<i>Calluna vulgaris</i>	Sport on 'Red Star' with Kurt Kramer, Edewecht-Süddorf, Germany; the rights to this cultivar now owned by the Scottish hotel of the same name
'Hamburg'	<i>Erica carnea</i>	From F. Kircher, Hamburg, Germany
'Highland Cream'	<i>Calluna vulgaris</i>	(see List of registered heathers)
'Ice Princess'	<i>Erica carnea</i>	(see List of registered heathers)
'Indian Rug'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Indian Thick Rug'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA

'Jason Attwater'	<i>Erica carnea</i>	(see List of registered heathers)
'Jill'	<i>Calluna vulgaris</i>	(see New Acquisitions above)
'Johan Slegers'	<i>Calluna vulgaris</i>	Seedling in A. G. Slegers' nursery, North Brabant, The Netherlands; named after his son
'Kerrie'	<i>Calluna vulgaris</i>	synonym of 'Karina'
'Kfr Royal'	<i>Calluna vulgaris</i>	Sport on 'Carmen', with H. Hatje, Tornisch-Ahrenlohe, Germany
'Leprechaun'	<i>Calluna vulgaris</i>	(see New Acquisitions above)
'Luna'	<i>Calluna vulgaris</i>	synonym of 'Gleneagles'
'Lydia'	<i>Calluna vulgaris</i>	Sport on 'Marleen', with H. Wordtmann, Wardenburg, Germany
'Lyle's Late Green'	<i>Calluna vulgaris</i>	Sport on 'Lyle's Late White', with Kurt Kramer, Edeweicht-Süddorf, Germany
'Marianne'	<i>Calluna vulgaris</i>	Sport on 'Marleen', with J. van der Schaaf, Geldern, The Netherlands
'Martin'	<i>Erica carnea</i>	Sport on 'Rubinteppich', with Kolster of Boskoop; named after his son
'M. M. Jadah' [illegitimate]	<i>Erica cinerea</i>	Seedling from Joop Dahm, Bemmelen, The Netherlands; seed-parent 'Eden Valley'; M. M. Jadah is his pen-name
'Pat's Gold'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Promenade'	<i>Erica cinerea</i>	Seedling from S. Ketelaar, Nieuwegein, The Netherlands
'Red Shift'	<i>Erica carnea</i>	Seedling from J. Proudfoot, Methven, Perthshire, Scotland
'Romance'	<i>Erica carnea</i>	Seedling from S. Ketelaar, Nieuwegein, The Netherlands
'Rosa Melanie'	<i>Calluna vulgaris</i>	synonym of 'Anette'; from Paul Wolf, Seligenstadt, Germany
'Rote Romina'	<i>Calluna vulgaris</i>	Sport on 'Romina', with Kurt Kramer, Edeweicht-Süddorf, Germany
'Ruthojo'	<i>Erica cinerea</i>	Seedling found near Nijmegen, The Netherlands, by Joop Dahm, Bemmelen, The Netherlands; name derived from the names <u>Ruben</u> , <u>Thomas</u> (his sons) and <u>Joop</u> from R. de Winkel, Goch, Germany
'Sandra'	<i>Calluna vulgaris</i>	from R. de Winkel, Goch, Germany
'Schneeflocke'	<i>Calluna vulgaris</i>	from R. de Winkel, Goch, Germany
'Schneeglöckchen'	<i>Calluna vulgaris</i>	source unknown

'Schneewitchen'	<i>Calluna vulgaris</i>	From M. Küppers, Wachtendork, Germany — may be a synonym for 'Josefine'
'Silberglaz'	<i>Calluna vulgaris</i>	Seeding from M. Zimmer, Wiesmoor, Germany
'Smokey Mauve'	<i>Erica erigena</i>	Listed in 1993 catalogue of Blue Mountain Nurseries, Tapanui, New Zealand
'Texel'	<i>Erica cinerea</i>	Seedling found on Texel, The Netherlands, by Joop Dahm, Bommel, The Netherlands
'Tinkerbell'	<i>Daboecia cantabrica</i>	(see New Acquisitions above)
'Twilight'	<i>Calluna vulgaris</i>	Sport on 'Schurig's Sensation', with W. Hoekert, Oldebroek, The Netherlands
'Waquoit Red'	<i>Calluna vulgaris</i>	Listed by Alice Knight, Heather Acres Inc., Elma, Washington, USA
'Weinroter Oktober'	<i>Calluna vulgaris</i>	Sport on 'Roter Oktober', with J. van der Schaaf, Geldern, The Netherlands
'White Delight'	<i>Erica colorans</i>	source unknown
'White Star'	<i>Erica cinerea</i>	From J. L. Jones, Lampeter, Dyfed, Wales
'Winter Rubin'	<i>Calluna vulgaris</i>	(see Ameliorations, p. 43)
'Winter Snow'	<i>Erica carnea</i>	(see List of registered cultivars)
'Winter Sport'	<i>Erica carnea</i>	Seedling from David Wilson, Sardis, British Columbia, Canada
'Yvette's Gold'	<i>Calluna vulgaris</i>	Seedling found by Yvette Knutson, who worked (1980-1983) in David Wilson's nursery, Sardis, British Columbia, Canada; from David Wilson
'Yvette's Silver'	<i>Calluna vulgaris</i>	Seedling found by Yvette Knudson; from David Wilson, Sardis, British Columbia, Canada

CULTIVAR NAMES AMPLIFICATIONS & AMELIORATIONS

'Curled Roundstone'	<i>Erica tetralix</i>	<i>Yb Heather Soc.</i> 1993:43. Collected on Earawalla Point at Dog's Bay, south-west of the village of Roundstone,
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Connemara, County Galway, by Dr Charles Nelson, c. 1980; the original was one of many prostrate heathers growing in short grassland within a few metres of the ocean, in sand overlying granite. Its stems are flat and irregularly curled. **ECN**.

'George Fraser'

Erica tetralix

Handy guide to heathers. (1993) p. 97. corrected spelling (listed as 'George Frazer'). **DMcC**.

'Winter Rubin'

Calluna vulgaris

This is a legitimate replacement name for 'Kramer's Rubin' (*Yb Heather Soc.* 1993: 44) requested by the introducer.

Erratum — *Yearbook of The Heather Society* 4 (1) (1993)

An inexplicable error, which most members will have noticed, named the Andalusian plant in Plate III incorrectly as *Erica tetralix*, which does not grow within 400 miles of that spot. It is of course *E. terminalis* which, although rare, has been recorded at several sites in southern Andalusia.

I came across this single plant by chance gracing the rock pool of a tiny stream on a parched hillside. The White Mountain is part of the Sierra Bermaja range, north of Estepona – and my son and I reached it after walking up a goat-track for a couple of hours in hot late-November sunshine. No other heather was seen there, but we did see *E. ciliaris* in bloom further west. Returning in March this year and led by the author of the local flora, Betty Molesworth Allen, four of us – including our President, David McClintock – found a few more plants of *E. terminalis* higher up in the same range of mountains, as well as the expected *E. scoparia*.

Pamela Lee
Honorary Secretary, The Heather Society



Fig. 1. Members of The Heather Society inspecting the heather garden at the RHS Garden, Wisley, 11 September 1993 (photograph by M. C. Sleight).

RHS GARDEN, WISLEY NATIONAL COLLECTION OF HEATHERS

To mark the successful development of a National Collection of heathers, a plaque was presented by the Heather Society to the Royal Horticultural Society's Garden, Wisley, on 11 September 1993. The plaque was presented to Bill Simpson, Director of Horticulture, by our President, David McClintock. Also gathered there to mark the occasion were Jim Gardiner (Curator), Mike Pollock (Technical Liaison Officer), John Battye (Floral Supervisor) and Andy Collins who looks after the heather collection and is, of course, a council member of the Heather Society.

Following the presentation and a tour of the collection, the Conference delegates were served with a delightful tea in the restaurant.

**THE HEATHER SOCIETY
23rd ANNUAL CONFERENCE 1993
UNIVERSITY OF READING**

A good conference starts with impeccable route directions, a welcoming smile from a charming hostess, a comfortable lounge, and a cup of tea. At Reading 1993, all these points were satisfied. The organisation from the beginning was good and everything went smoothly.

The fact that the President, David McClintock, was 80 during 1993 was not on the programme, but the beginning of the conference was the perfect time to mark this occasion with the presentation of a birthday present. David is a Trinity College, Cambridge, man who likes his port, so with a fair degree of behind-the-scenes activity, two bottles of Trinity port were obtained, together with two large wine glasses engraved by an East Anglian craftsman with one of Brita Johansson's beautiful heather drawings which are always pleasing. David was completely surprised and what a pleasant start to the conference.

It is fairly common now on the first evening for a member of the staff of the university where we are staying to tell us something about the history and botany of the surrounding region. Dr Stephen Jury was no exception. He told us how the land on which the University of Reading is being built was once Whiteknight's estate, owned by the Marquess of Blandford. The marquess spent the whole of his fortune on plants, buying plants to a ridiculous degree, planting them on the estate, or in containers, spending money so unwisely that ultimately he was made bankrupt. The estate was sold in seven lots to pay his debts.

One of the seven sections of land was bought by the Palmer family who built St Andrew's Hall, and together with a Mr Huntley, they had some success in making biscuits.

Years later, the university bought the Palmer land and St Andrew's Hall, and the other six pieces of land of the original Whiteknight's estate, and have been able to create a spectacular campus.

On Saturday morning, Albert Julian and I sat with the sun on our backs discussing the 1994 conference in Yorkshire whilst the rest of the delegates walked around a part of the estate noting some of the plants which the marquess planted some two hundred years ago. I understand all found the walk interesting.

The printed programme said that a picnic lunch would be provided; we had carried our sandwiches, crisps and fruit in a little carrier bag from St Andrew's Hall but who would have guessed how that very simple meal would be made something special by the hospitality of the university?

We were shown into a comfortable entrance hall of a university building, amongst notice boards giving details of successful botanical projects, overlooked by a large bust of Carl Linnaeus. The University of Reading, it seems, teaches botany to a high degree of excellence.

What a setting for a simple lunch of the learned members of the Heather Society. We had sherry before our sandwiches and coffee afterwards, and went off to Wisley thinking what a pleasant and much-appreciated event that was.

Andrew Collins, a member of the society's council and of the staff of the Royal Horticultural Society's garden at Wisley, had early on Saturday morning pieced together the saga of the heather collection at Wisley which was started in 1978. 'Top Men' of the Heather Society met 'Top Men' of Wisley and agreed to create a national heather collection at Wisley using stock from the recently completed heather trials at the Northern Horticultural Society's gardens at Harrogate.

We had known that a water main was necessary to keep young plants alive on the Bagshot Sands. We had known that young plants had to be protected from rabbits. We had heard of the 1987 gale which devastated so much of the RHS Gardens. A video showing the extent of the storm damage brought home to us why the project had taken so long.

It is done now. Wisley has a beautiful national collection of heathers, an information chalet, and a plaque presented by the Heather Society, just like the one at Cherrybank presented last year.

John Bond, Keeper of Savill Gardens, Crown Estates, Windsor, spoke about the national collections under his care.¹ He did this with such enthusiasm and knowledge that time did not seem to matter. He showed us around the heathers and dwarf conifers collections at Savill Gardens on the following morning with equal enthusiasm

despite pouring rain. We had dressed ourselves against the weather, so that the rain did not seem to matter either.

The annual general meeting came and went as usual, but this year it had a more pressing issue to discuss — falling membership — and urgent steps are to be taken to reverse this trend. David Small can easily change from chairman of the meeting into a knowledgeable reporter on what is new in heathers. The list of new cultivars which have come on to the market recently is long and impressive. What is even more impressive is the fact that so many of these are hybrids produced by Kurt Kramer who through the years of growing heathers had noted gaps in the market which he is filling admirably. His hybrids will sell because he has 'designed' them to sell.

Arnold Stow, as an introduction to a discussion period, suggested that we grow ornamental grass with heathers to give more variation in height, colour and texture. The members did not warm to this idea, but did agree with Walter Wornick, a member from New Hampshire, who suggested that a garden could include heathers which grow from 5 inches tall to 5 feet tall, and have widely different foliage colour and texture. Are we forgetting the fundamentals when we have to leave it to a 'pupil' to state the obvious?

The last evening was full of humorous reminiscences. Members showed slides that they had taken of amusing events at previous conferences. Over the years I have noticed that there are times when members of the Heather Society stand around doing nothing whilst others decide what to do next. The fact that I spend that time lying flat on the grass has been recorded by several and some of these occasions were shown to the amusement of all!

So another conference ended in warm friendliness. Why not come to York next Year?

PETER VICKERS

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1. The NCCPG National Collections at the Savill Gardens are *Magnolia*, *Pieris*, *Rhododendron*, *Gaultheria* (including plants previously classified as *Pernettya*), *Ilex* (holly), *Mahonia*, hardy ferns and dwarf conifers. In addition there are good collections (not designated as National Collections) of *Hosta*, *Fagus* (beech), *Primula*, *Meconopsis*, *Sorbus* (whitebeams, rowans) and *Narcissus* (daffodils).

RECENT PUBLICATIONS

This bibliography does not include articles and notes from *Ericultura*, *Der Heidegarten*, *Heather News* or *Heather Notes*: David McClintock has complete sets of these periodicals if any member wishes to see them.

ANONYMOUS. 1993. Fight for survival. *English Nature* **10**: 16.

English Nature's National Lowlands Heathland programme.

— 1993. Obituaries [Bob Brien]. *Rock garden* no. 91: 178.

'The popular kilted nurseryman of Pitcairngreen'.

— 1993. Vårlyng. *Bergens tidende* (23 April).

Comending *Erica carnea* cultivars including 'Springflood'.

— 1993. Lowland heathlands. *Enact* **1** (2): 2-22.

'The future looks promising for Dorset's heaths'.

— 1993. Nursery Stock. *Horticultural week* (25 June): 35.

Short descriptions of 5 new *Erica carnea* cultivars.

— 1993. Heather growers go for growth. *Nurseryman & garden centre* **182** (14) (26 July): 5.

'To attract those who have not seen the benefits of membership' of BHGA.

— 1993. Promotion for this autumn's heather sales. *Horticultural week* (20 August): 20.

BHGA point-of-sale material.

— 1993. Winter warmers. Six of the best. *Garden answers* (October): 44.

One 'of the best' is *Erica carnea* with 5 cultivars mentioned.

— 1993. A mechanical 'Billy Goat'. *Planning* (17 December): 1049.

For collecting heather seed in Surrey.

BARBER, L. 1993. A hint of the Highlands. *Garden answers* (February): 10-12.

The Malcolms' former garden near Northampton with many heathers.

BECKETT, G. 1993. Vanishing heathland. *Home & country* (October): 32-33.

What Women's Institute members can do about it.

BERTA, G., SGORNBATI, S., GIACCONE, P. & GIANINAZZI-PEARSON, V. 1993.

Nuclear morphology and ploidy levels in infected and uninfected hair root cells of *Calluna vulgaris* and... *Protoplasma* **170** (3-4): 160-165.

No significant differences observed in average host nuclear size.

BELOUSOV, M. V., LEVASHOVA, I. G. KOMISSARENKO, N. C. & STARCHENKO,

V. M. 1993. [Content of arbutin in Siberian and Far Eastern species of the Ericaceae]. *Kastitelenya reshry* **28** (4): 53-55.

Includes *Andromeda*.

BLOOM, A. 1993. Gardening for autumn and winter colour. *Gardeners world* (November): 81.

'Heathers so indispensable for providing winter colour...'; glorious photograph of Foggy Bottom in February.

— 1993. *Winter garden glory*. London: HarperCollins.

40—50 cultivars described in 'Heaths and heathers' (pp 1133-1135).

BORATYNSKI, A., BROWICZ, K. & ZIELINSKI, J. 1993. *Chorology of trees and shrubs in south-west Asia and adjacent regions*. Vol. 9. Poznan: Polish Scientific Publishers.

Erica arborea (pp 94, 98) and '*E. herbacea*' (pp 92, 99) in N. Pindus, 1200-1900 m; the latter record from Morocco presumably is *E. erigena*.

BROWN, N., BOTHA, P., KOTZE, D. & JAMIESON, H. 1993. Where there's smoke, there's seed. *Veld & flora (Kirstenbosch)* (September): 77-79.

Plant-derived smoke is an important natural 'cue' for the germination of seed of South African native plants, including *Erica* spp.

BRUMMITT, R. K. 1993. Report of the Committee for spermatophytes 38. *Taxon* 42 (3): 696.

Conservation of *Erica vagans* L. with a new type accepted (no. 961).

BRUNEL, C. 1993. *Plantes protégées de Picardie*. Société Linnaeene Nord-Picardie.

La bruyère quaternée (p 34), la bruyère cendrée (p 41), with distribution maps.

COOMBS, G. K. & RUSHFORTH, K. *Making a small garden*. London: Cassel & RHS.

'A heather garden' (pp 107-109) mentioning some dozen cultivars.

DAHL, A. O. & ROWLEY, J. 1993. Microspore developments in *Calluna* exine formation. *Annales sciences naturelles botaniques Paris* 13 ser.: 155-176.

The exine of the pollen consists of rod-shaped processes (tufts) throughout its extent. The high level of resistance to degradation could be due to their close packing.

DONITA, V. 1993. *Vegetatio Romaniae*. Bucharest: Technica Agricola.

Notes *Bruckenthalia* at 1700-1800 m (pp 114, 147, 171).

EVERETT, D. 1993. Sizzling summer heather. *Garden news* (9 June): 24-25.

Summer flowerers plus cultural advice; poor colour photographs of 4 cultivars.

— 1993. Wonderful *Erica*. *Garden news* (3 November): 14.

Winter flowerers; very poor photographs.

FERGUSON, H. 1993. Heather garden expanded. *Mendocino Coast Botanical Garden newsletter* (Fall/Winter 1993/1994): 8.

A new chapter of the NAHS in southern California.

FRANCEZ, A.-J., BIGNON, J. & MOLLET, A. M. 1993. The peatlands in France. *Suo* 43 (1): 11-24.

Their main characteristics, with 2 maps.

GIBBONS, D. 1993. Flower of the season. Dorset Heath. *Plantlife* (Autumn): 14.

'Does not occur in the New Forest'. We know better!

GRANT, S. A. & ARMSTRONG, H. M. 1993. Grazing ecology and the conservation of heather moorland. *Biodiversity & conservation* 2 (1): 79-94.

Advice on stockings and timing to sustain *Calluna*.

HEARN, K. 1993. A burning issue. *National Trust magazine* (Autumn): 30-31.

A sustainable future for the heath on Ludshott Common, Hampshire.

IASON, G. R. & HESTER, A. 1993. The response of heather (*Calluna vulgaris*) to shade and nutrients — prediction of the carbon-nutrient balance hypothesis. *Journal of ecology* 81: 75-80.

Interpreting the obvious results of 2 treatments.

- ISAACSON, R. T.** 1993. *Flowering plant index*. University of Minnesota.
2 fat volumes listing, from relatively circumscribed sources, coloured illustrations; a few heathers are included but the references are uncritical: *Daboecia* misidentified as *Andromeda*.
- JUDD, W. S. & KRON, K. A.** 1993. Circumscription of Ericaceae (Ericales) as determined by preliminary cladistic analyses based on morphological, anatomical, and embryological features. *Brittonia* **45**: 99-114.
- KRAMER, K.** 1993. Neues aus der Sortenküche. *Deutsche gärtnerpost* 19: 9.
Mainly a good survey of bud bloomers.
- LARSEN, O. J.** 1993. *Erica* — mer enn Vånlyng. *Hagertidende* (April): 302-304.
Recommending heathers; includes *Calluna*.
- LOUNAMAA, N.** 1992. *The Finnish flora: Suomen Kasvit*. Forssa: Forssan Kustannus Oy.
Erica tetralix 'very rare', photograph: *Calluna vulgaris* 'common', photograph shows more white flowers than purple.
- MACKAY, J.** 1993. New heathers on the horizon. *The weekly news* (10 April): 23.
Cherrybank.
- McCLINTOCK, D.** 1993. *Bruckenthalia*, *Calluna*, *Daboecia*, *Erica*, in **Beckett, K. A. & Grey-Wilson, C. (editors)** *Encyclopaedia of alpine*. 2 volumes. Pershore: Alpine Garden Society.
About 180 cultivars of *Erica* (18 spp and assorted hybrids) included.
— 1993. Heaths in all their glory. *Kew* (Spring 1993): 40.
Review of Schumann & Kirsten *Ericas of South Africa*.
- MANWOOD, C.** 1993. *Callunas*. *Northern gardener* (Summer): 24.
A good summary with colour photos of Albert Julian's beds, and *Calluna vulgaris* 'Wickwar Flame'
- MORTON, L. C.** 1993. *The folklore of trees and shrubs*. Paquot Press.
Calluna vulgaris (p 99); drawing, description, how to grow, uses - no folklore!
- NELSON, E. C.** 1993. Mapping plant distribution patterns: two pioneering examples from Ireland published in the 1860s. *Archives of natural history* **20**: 391-403.
A history of botanical maps, reproducing the earliest (1823) by J. F. Schouw which showed *Calluna vulgaris* and *Erica* spp., and a map of Ireland (1866) which included *Daboecia cantabrica* and *Erica ciliaris*, *E. erigena* and *E. mackaiana*, as well as climatic data.
— 1993. Second nature. *The Irish garden* **2** (6): 12-13.
Growing native Irish plants including heathers; photograph of *Daboecia cantabrica* 'Charles Nelson'.
- NELSON, E. C. & DEANE, E.** 1993. 'Glory of Donard'. *A history of the Slieve Donard Nursery, Newcastle, County Down*. Belfast: Northern Ireland Heritage Gardens Committee.
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A biographical study, with details of the collecting localities, of a man who introduced many Cape heaths; includes discussion of his so-called *Erica* manuscript at Kew.

NOUYRIGAS, F. 1992. *Flora d'Aubrac*. Rodez: Editions de Rouergue.

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OLIVER, E. G. H. 1993. Studies in the Ericoideae (Ericaceae) X. Nomenclatural changes for the Flore des Mascareignes region. *Kew bulletin* **48**: 767-769.

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Philippia spp placed in synonymy within *Erica*.

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— 1993. Studies in the Ericoideae (Ericaceae). XIII. Three new species of *Erica* from the southwestern Cape. *Bothalia* **23**: 9-14.

New species named.

RICCIARDI MAZZAOLENI, S. 1993. *Flora illustrata de Capri*. Naples: Nlecta. *Erica arborea* with photograph (p. 99); *E. terminalis* with localities. A lovely book.

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RICE, G. 1993. Rice Pickings; hand-picked plants. *Garden news* (14 December): 11
Erica carnea 'Springwood White'.

SAULT, M. 1993. *La grande flore illustrée des Pyrénées*. 763 pp.

9 heathers with line drawings of each. 'La Callune vulgaire le plus banale des bruyères'; local names in Aragonese, Basque and Catalan.

SCHMIDT, H. 1993. *Pflanzen auf Teneriffe*. Marburg am der Lahn: Basilisker Press.

Good colour pictures of *Erica arborea* and *E. scoparia* (pp 98-99).

SHRIMPTON, J. 1993. Winter-flowering heathers. *Gardening from Which* (November): 412.

A brief encomium.

SMALL, D. 1993. Best of the bunch. *Amateur gardening* (23 January): 34.

Erica x darleyensis.

— 1993. Choosing and growing heathers. *Amateur gardening* (30 January): 25 - 32.
As thorough a coverage of all aspects as could be fitted in with numerous illustrations.

— 1993. Acid test. *Amateur gardening* (27 February): 38.

Checking the acidity of the soil.

— 1993. Spoil for choice *Amateur gardening* (3 April): 38.

How best to choose, what, when.

- SMALL D.** 1993. Time for a haircut. *Amateur gardening* (8 May): 5.
Pruning.
- 1993. Advice on water and weeds. *Amateur gardening* (12 June): 34.
Mulches, etc.
- 1993. Cuttings advice. *Amateur gardening* (17 July): 36.
Good advice.
- 1993. Choosing ling. *Amateur gardening* (21 August): 34.
15 cultivars of *Calluna vulgaris* recommended.
- 1993. Why not *vagans*? *Amateur gardening* (25 September): 38.
Photographs of *Erica vagans* 'Birch Glow' and 'Kevernensis Alba'.
- 1993. Tricks with heathers. *Your garden* (October): 14-15.
12 tips with sound advice, and no tricks.
- 1993. Heathers prized for patios. *Amateur gardening* (30 October): 41.
Photographs include *Calluna vulgaris* 'Humpty Dumpty' and 'White Lawn'
- 1993. Twee or not to twee. *Amateur gardening* (27 November).
Companion plants.
- STARLING, B.** 1993. *Andromeda*, in **Beckett, K. A. & Grey-Wilson, C. (editors)** *Encyclopaedia of alpines*. Pershore: Alpine Garden Society.
A valuable summary (see under **McClintock, D.** above).
- STOWE, J.** 1993. Making the most of heathers. *Practical gardening* (September): 16-21.
The Everetts' nursery.
- SUECK, T. A., VAN DER EERDEN, L. J. & BERDOWSKI, J. J. M.** 1993.
Estimation of SO₂ effect thresholds for heathland species. *Functional ecology* **6**: 291-296.
Calluna least affected.
- TUFFS, L.** 1993. Heather gets image conscious. *Horticultural week* (1 October): 12-13.
The BHGA Conference.
- VAN DER LAAR, H. J.** 1992. Vakbeurs Plantarium '92. *Dendroflora* **29**: 51.
Silver medal for *Calluna vulgaris* 'Roswitha' (originally 'Rote Marleen');
'Redbud' appears identical.
- 1992. Keuringen 1992. *Dendroflora* **29**: 62
Erica x darleyensis 'Kramer's Rote' given upgraded Award of Merit.
- 1993. De Heidefamilie. *Groei & bloei* **8**: 24-30.
48 cultivars of heathers mentioned, plus photographs of some.
- VELAYOS, M. & CASTILLA, F.** 1993. Chorologica Iberia IV. *Archivos de flora Iberica* **6**.
Index to references in the first 50 issues of *Annales del Real Jardin Botanico de Madrid*: references to *Calluna*, *Daboecia*, *Erica*.
- W—, I. D.** 1993. Echter Mehltau und *Erica gracilis*. *Deutsche gärtnerpost* (19 September): 12.
What to do about *Oidium ericinum*.

WHITSEY, F. 1993. Magic carpet of colours. *Daily Telegraph* (12 July): vii.

'I cannot take heather gardens to heart but...'

WOOD, J. 1993. Heather return. *Garden News* (19 March): 8.

Welcome to Eversley Nurseries at the RHS Show, but citing 2 cultivars under wrong names.

All members with knowledge of publications likely to be of interest to fellow members, are invited to contribute to this bibliography. Please submit full details to the editor. Items for inclusion should follow the format above, with the following information.

BOOKS — author's name and initials, date of publication, title **in full**, place of publication and publisher's full name and full address; ISBN number, and price. (A comment about the content of the book will be useful if the contents are not obvious from the title.)

ARTICLES IN NEWSPAPERS, JOURNALS, etc. — author's name, initials, full title of article, full title of the periodical (not abbreviated), volume number (and part number if relevant), numbers of the first and last pages. For articles published in 'popular' gardening periodicals and newspapers, the exact date of issue (day, month, year) should be supplied.

See p. 58 for additional information.

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GERMANY

NURSERY CATALOGUES

As a service to members of the society, I intend to publish information about nurserymen's catalogues in future issues of the *Yearbook*. Any nursery wishing to have its catalogues noticed should send a copy of the current (or most recent, **even if out-of-date**) issue direct to me, and please ensure that a copy of each subsequent catalogue is supplied. Other members, who are not nurserymen but who know of outstanding nursery catalogues containing heathers, are also invited to contact the editor so that an entry can be prepared for the catalogues that they know.

Closing date for receipt of catalogues for 1995 *Yearbook* is **31 October 1994**.

Notes for contributors

The editor of *Yearbook of the Heather Society* invites members of the Heather Society and other persons with interests in heaths and heathers to submit articles, notes, illustrations and photographs for publication in the *Yearbook* which is issued once every year.

Articles and notes may be of general interest or may record the results of horticultural, botanical and historical research. The cultivation of heaths and heathers (*Erica*, *Calluna*, *Daboecia* and related genera), their conservation, taxonomy, distribution and history, biographies of individuals and histories of nurseries, bibliography and iconography are some examples of relevant topics.

ARTICLES & NOTES should be submitted as fully corrected, legible typescript, typed on one side of the paper, double-spaced with wide margins. Electronic text on IBM-compatible 3.5 inch microdisk in ASCII format is also acceptable but hard-copy (double-spaced) must accompany the microdisk; the editor regrets that AppleMac discs are not suitable. Members of The Heather Society may send handwritten manuscripts, but ensure these are legible; please leave a wide margin on the left-hand side, and write only on one side of the paper.

ILLUSTRATIONS with accompanying text and captions are also welcome. High quality pen-and-ink drawings and glossy black-and-white photographic prints can be considered for inclusion. A limited number of colour photographs will be selected for use in each *Yearbook* but only the highest-quality colour transparencies can be used. Members, artists and photographers wishing to submit illustrations are advised to consult the editor *before* sending original artwork or photographs by mail.

The editor reserves the right to obtain independent referees's opinions about articles and illustrations submitted for publication.

BOOKS FOR REVIEW. Publishers are invited to send books relevant to the interests of The Heather Society for review in *Yearbook of the Heather Society*. Review copies should be sent direct to the editor, and not to a reviewer.

SUBMISSION OF ARTICLES & ILLUSTRATIONS

Please direct typescripts to the editor at the address given in this *Yearbook* — typescripts may be transmitted by fax, but a copy should also be sent by air mail. Please do not send articles for the *Yearbook* to The Administrator.

**All material for the 1995 issue of the *Yearbook of the Heather Society* must reach the editor not later than
31 October 1994.**

Due to the strict printing schedule for the *Yearbook*, the editor regrets that articles and illustrations received after that date will be reserved for publication in **1996**.

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